

APPENDIX J

Biological Assessments



South Carolina
Department of Transportation

August 19, 2016

Mr. Mark Caldwell
United States Department of Interior
Fish and Wildlife Service
176 Croghan Spur Road, Suite 200
Charleston South Carolina 29407

RE: Biological Assessment and Avoidance of Construction Impacts to the Red Knot (*Calidris canutus rufa*) and Kirtland's warbler (*Setophaga kirtlandii*)
Road Widening and Bridge Construction on US 17 in Jasper County, South Carolina,
SCDOT PIN 39168RD01, FWS Log No. 2014-I-0318

Dear Mr. Caldwell:

This letter is intended to request informal consultation regarding potential impacts to the red knot (*Calidris canutus rufa*) and Kirtland's warbler (*Setophaga kirtlandii*) for the above referenced project. The project would involve construction of a new bridge over the Back River as well as widening of the roadway from Hutchinson Island (Chatham County, Georgia) to SC 170 in Jasper County, South Carolina. This project is a joint endeavor of the SC Department of Transportation (SCDOT) and the Georgia Department of Transportation (GDOT). GDOT has already received concurrence from your office in January, 2009 for their section of the project which included replacing the existing bridge on new alignment and removal of the existing bridge. SCDOT will be widening the roadway leading up to the bridge and constructing a new two lane bridge.

Based upon the attached biological assessment, the project **may affect, but is not likely to adversely affect**, the threatened red knot and would have **no affect** on the Kirtland's warbler. Please review the enclosed Biological Assessment at your earliest convenience and provide the Department with your comments on this finding.

Thank you for your assistance in this matter. If you have any questions regarding these measures, you may contact me at (803) 737-0841 or by email at RiddleNL@scdot.org.

Sincerely,

Nicole Riddle
Asst. NEPA Coordinator/Biologist

NLR: nlr
Enclosures

cc: Mr. Gordon Murphy, Michael Baker International, Inc. (letter only)
File: Env/NLR



U.S. Route 17

Widening and Bridge Over Back River

*Biological Assessment for the Red Knot (*Calidris canutus rufa*)
And Kirtland's Warbler (*Setophaga kirtlandii*)*

**U.S. ROUTE 17 WIDENING AND BRIDGE OVER BACK RIVER – FROM
HUTCHINSON ISLAND, GA TO S.C. ROUTE 315, SC**

JASPER COUNTY, SOUTH CAROLINA AND CHATHAM COUNTY, GEORGIA

**BIOLOGICAL ASSESSMENT FOR THE RED KNOT (*CALIDRIS CANUTUS RUFA*)
AND KIRTLAND'S WARBLER (*SETOPHAGA KIRTLANDII*)**

**- ADDENDUM TO BIOLOGICAL ASSESSMENTS OF DECEMBER 6, 2010
AND JULY 1, 2014**

FWS LOG #07-FA-1278

FWS LOG #42410-2011-I-0073

FWS LOG #2014-I-0318

AUGUST 2016

U.S. Route 17

Widening and Bridge Over Back River

Biological Assessment for the Red Knot (Calidris canutus rufa)

And Kirtland's Warbler (Setophaga kirtlandii)

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Widening and Bridge Over Back River *Biological Assessment for the Red Knot (Calidris canutus rufa)* *And Kirtland's Warbler (Setophaga kirtlandii)*

SECTION 1 INTRODUCTION

The South Carolina Department of Transportation (SCDOT), in cooperation with the Federal Highway Administration (FHWA), and Georgia Department of Transportation (GDOT) proposes to improve U.S. 17 (Speedway Boulevard) from the Georgia SR 404 Spur on Hutchinson Island in Chatham County, Georgia, approximately 4.2 miles north to S.C. 315 (South Okatie Highway) in Jasper County, South Carolina (refer to Appendix A, Figure 1). The improvements include the widening of U.S. 17 from two to four travel lanes separated by a 36-foot wide grass median. In addition, a new bridge structure would be constructed over Back River adjacent to the bridge recently completed by GDOT to accommodate the additional travel lanes.

To satisfy the requirements of the National Environmental Policy Act (NEPA) and Section 7 of the Endangered Species Act, the project study corridor was surveyed for the presence of federally protected species. A Biological Assessment was prepared and was approved by the U.S. Fish and Wildlife Service (USFWS) on December 6, 2010. However, this Biological Assessment did not include a new bridge over the Back River, as is included in the current project concept. Coordination also occurred with USFWS and the National Oceanic and Atmospheric Administration, National Marine Fisheries Service Division (NOAA NMFS) for the construction of a new bridge over the Back River by GDOT.

On April 6, 2012, the Atlantic sturgeon became officially listed as “Endangered” on February 6, 2012. Based upon this new listing, an Addendum to the Biological Assessment was prepared to evaluate the potential for impacts to the Atlantic sturgeon by SCDOT’s proposed new bridge over the Back River. The shortnose sturgeon and West Indian manatee were also reconsidered due to their similarities in habitat requirements to the Atlantic sturgeon and to facilitate consultation with NOAA NMFS. The Addendum to the Biological Assessment resulted in a finding of “may affect but not likely to adversely affect” the three considered species. A copy of the concurrence by USFWS is included in Appendix B.

The red knot was officially listed as Threatened on January 12, 2015 after publication in the Federal Register.¹ In addition, recent updates to the USFWS’s Information for Planning and Conservation (IPaC) website now includes the Endangered Kirtland’s warbler for Jasper County, South Carolina.² This Biological Assessment is being prepared to evaluate potential impacts to the red knot and Kirtland’s warbler by the proposed project.

¹ USFWS. Endangered and Threatened Wildlife and Plants; Threatened Species Status for the Rufa Red Knot; Final Rule. Federal Register, Vol. 79, No. 238: pp 73706-73748. December 11, 2014. (Available online at <https://www.gpo.gov/fdsys/pkg/FR-2014-12-11/pdf/2014-28338.pdf> (accessed August 16, 2016).

² USFWS, IPaC website, IPaC - Information for Planning and Conservation (<https://ecos.fws.gov/ipac/>): A project planning tool to help streamline the U.S. Fish & Wildlife Service environmental review process. (August 17, 2016).

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SECTION 2 METHODS

The South Carolina Department of Natural Resources (SCDNR), Heritage Trust Program's online Rare, Threatened, and Endangered Species Inventory database was accessed in order to obtain pertinent species occurrence information. The Georgia Department of Natural Resources (GDNR) also lists species of special concern and maintains a database of rare, threatened and endangered species for each county, which was also accessed to obtain project specific information.

The databases maintain mapping that documents known occurrences of rare, threatened, and endangered species for the entire state. According to the SCDNR database, there are no known occurrences of federally protected species within or immediately adjacent to the proposed project corridor.

A literature search was performed for the red knot (*Calidris canutus rufa*) and Kirtland's warbler (*Setophaga kirtlandii*) to determine habitat requirements and to find descriptions of the species and suitable habitat in support of this document. Important sources of reference information included natural resource agency data and published reports, the Federal Register, and available U.S. Fish & Wildlife Service (USFWS) Recovery Plans.

Surveys for the presence of red knot or Kirtland's warbler within the proposed project area were not performed. Instead, this assessment relies on evaluation of the presence of potential habitat and the results of resource and regulatory agency studies regarding the presence of red knot. The optimal survey window for the red knot in South Carolina is August 1st through May 31st during their migration and over-wintering life periods. The optimal survey window for Kirtland's warbler is during their annual migrations, April through May (Spring) and August through September (Fall).

Widening and Bridge Over Back River Biological Assessment for the Red Knot (*Calidris canutus rufa*) And Kirtland's Warbler (*Setophaga kirtlandii*)

SECTION 3 BIOTIC COMMUNITIES

The study area for the proposed project corridor was generally classified based on the vegetative composition using those habitats described in *The Natural Communities of South Carolina*³ and *Classification of Wetlands and Deepwater Habitats of the United States*.⁴ Using these references, the following biotic communities were identified as occurring within the project corridor.

3.1 UPLANDS

Uplands are generally dry areas with the water table one foot or more below ground level during the growing season. Uplands identified within the study area during the field surveys included mesic mixed hardwood forest and pine flatwoods.

3.1.1 Mesic mixed hardwood forest

Mesic mixed hardwood forests are uplands primarily on slopes and ravines in the Piedmont, but also occurring on the Coastal Plain on north-facing river bluffs. The canopy and understory is composed of a rich variety of hardwoods, and the herbaceous and shrub species are numerous. It may be difficult or impossible to recognize a single dominant species.⁵ These forests identified within the Preferred Alternative study corridor during the field investigations were dominated by tulip-poplar (*Liriodendron tulipifera*), sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), black gum (*Nyssa sylvatica*), and white oak (*Quercus alba*). The understory had hornbeam (*Carpinus caroliniana*), American holly (*Ilex opaca*), horse-sugar or sweetleaf (*Symplocos tinctoria*), and flowering dogwood (*Cornus florida*). The herbaceous layer may include partridgeberry (*Mitchella repens*), heartleaf (*Hexastylis arifolia*), and pipsissewa (*Chimaphila maculata*).

3.1.2 Pine flatwoods

This is the dominant natural upland habitat in the study corridor. Pine flatwoods are uplands with an essentially flat or rolling terrain, sandy soil, and a high water table. They have a canopy of pines and a well-developed sub-canopy of several tall shrub species. These habitats are successional from the abandonment of cropland, and quickly succeed to deciduous hardwood-

³ John B. Nelson, *The Natural Communities of South Carolina: Initial Classification and Description* (Columbia, SC: S.C. Wildlife & Marine Resources Department Division of Wildlife and Freshwater Fisheries, 1986).

⁴ L.M. Cowardin, V. Carter, F.C. Golet, and E.T. LaRoe, *Classification of Wetlands and Deepwater Habitats of the United States*, FWS/OBS-79/31 (Washington, D.C.: U.S. Fish & Wildlife Service, 1979).

⁵ John B. Nelson, *The Natural Communities of South Carolina: Initial Classification and Description* (Columbia, SC: S.C. Wildlife & Marine Resources Department Division of Wildlife and Freshwater Fisheries, 1986).

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dominated forests. If fire is maintained, they frequently grade into pine savannah habitat.⁶ Pine flatwoods identified within the study corridor were dominated by loblolly pine (*Pinus taeda*), water oak (*Quercus nigra*), black gum, red maple, black cherry (*Prunus serotina*), and sweetgum in the canopy or near-canopy layer. The understory consisted of sweetleaf, sparkleberry (*Vaccinium arboreum*), wax myrtle (*Morella cerifera*), persimmon (*Diospyros virginiana*), and beautyberry (*Callicarpa americana*), with the occasional eastern red cedar (*Juniperus virginiana*), highbush blueberry (*Vaccinium corymbosum*), and sassafras (*Sassafras albidum*). Woody vines included briars (*Smilax rotundifolia*, and *S. glauca*), yellow jessamine (*Gelsemium sempervirens*), muscadine (*Vitis rotundifolia*), poison ivy (*Toxicodendron radicans*), and Japanese honeysuckle (*Lonicera japonica*). The herbaceous layer was dominated by bracken fern (*Pteridium aquilinum*), silver-leaved grass (*Heterotheca graminifolia*), and ebony spleenwort (*Asplenium platyneuron*).

3.2 WETLANDS

Wetlands are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands identified within the study area during the field surveys included salt marsh/salt scrub thicket, bottomland hardwoods, freshwater marshes, ponds/borrow pits, and wooded swamps.

3.2.1 Salt Marsh/Salt Scrub Thicket

Salt marsh/salt scrub thicket is the dominant wetland type within the study corridor. This wetland type occurs along roadway shoulder where a road historically bisected the marsh. The salt marsh community is reasonably species-poor and is often nearly totally dominated by *Spartina* spp., especially *S. alterniflora* (smooth cordgrass), with *Spartina patens* and *Distichlis spicata* as common associates.⁷ The salt shrub thicket is an estuarine wetland consisting of a narrow band of salt-tolerant shrubs growing between salt marsh and more upland areas. These shrubs usually consist of various sea-myrtles (*Baccharis* spp.), marsh-elder (*Iva frutescens*), sea-oxeye (*Borrchia frutescens*), wax-myrtle, cabbage palm (*Sabal palmetto*), and southern red-cedar (*Juniperus silicicola*).⁸ The salt marsh and salt scrub thicket wetlands within the project corridor are dominated by smooth cordgrass (*Spartina alterniflora*), big cordgrass (*S. cynosuroides*), and black needlerush (*Juncus roemerianus*) with small areas of glasswort (*Salicornia* spp.) at the margin of the unvegetated tidal flats. Some areas were dominated by giant reed (*Phragmites communis*), an invasive, non-native species. Shrubby species along marsh boundaries included sea-myrtles, marsh-elder, sea-oxeye, wax-myrtle, sweetgum saplings, red maple saplings, and southern red-cedar.

⁶ *Ibid.*

⁷ Nelson, John B. 1986. *The Natural Communities of South Carolina: Initial Classification and Description*. Columbia, SC: South Carolina Wildlife and Marine Resources Department Division of Wildlife and Freshwater Fisheries.

⁸ *Ibid.*

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3.2.2 Bottomland hardwoods

Bottomland hardwoods occur within the project corridor along the interface between freshwater and salt water communities with scrub-shrub areas on maintained fringes. Bottomland hardwoods are palustrine wetlands frequently flooded by and associated with river systems, creeks, or other drainages. These floodplains are flat and somewhat elevated above the adjoining swamp, and are often dissected.⁹ Dominant tree species contained within the bottomland hardwoods and scrub-shrub wetlands include sweetgum, bald cypress (*Taxodium distichum*), red maple, water tupelo (*Nyssa aquatica*), Chinese tallow (*Sapium sebiferum*), swamp chestnut oak (*Quercus michauxii*), and water oak. Dominant saplings and shrubs in the bottomland hardwoods and scrub-shrub wetland communities include red maple, sweetgum, Chinese tallow, black willow (*Salix nigra*), groundsel-tree (*Baccharis hamilifolia*), elderberry (*Sambucus canadensis*), loblolly pine, wax myrtle, and dwarf palmetto (*Sabal minor*). Dominant herbaceous species of the bottomland hardwoods and scrub-shrub wetland communities include: lizard's tail (*Saururus cernuus*), netted chain fern (*Woodwardia areolata*), cinnamon fern (*Osmunda cinnamomea*), royal fern (*O. regalis*), soft rush (*Juncus effusus*), rice cutgrass (*Leersia oryzoides*) and spikerush (*Eleocharis sp.*).

3.2.3 Freshwater marshes

Freshwater marshes are open wetlands with a widely fluctuating water level, usually every year, dominated by emergent grasses, sedges, and rushes. This type of wetland is typically associated with deeper water wetlands, but can also be found where trees are kept at bay in power line and roadway rights-of-way and other places where man prevents succession into, or back into, wooded wetlands.¹⁰ The freshwater marsh areas vary in vegetative composition. Dominant vegetation observed in the emergent wetlands include various sedges (*Carex sp.*), beaksedge (*Rhynchospora sp.*), Vasey's grass (*Paspalum urvillei*), marsh pennywort (*Hydrocotyle americana*), spikerush, soft rush, cattail (*Typha latifolia*), velvet panic grass (*Dichanthelium commutatum*), alligator weed (*Alternanthera philoxeroides*), and giant cane (*Arundinaria gigantea*).

3.2.4 Ponds and borrow pits

Ponds and borrow pits are typically manmade, open, freshwater communities. These water bodies are generally created by excavation activities, or altering stream or surface drainage flow. These ponds are created by excavation in uplands (borrow pits, agricultural ponds), or by damming or otherwise altering slow-moving streams by man or beavers (impoundments). Fringe wetlands are often found associated with ponds and borrow pits to form a freshwater wetland

⁹ *Ibid.*

¹⁰ *Ibid.*

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system. Those identified within the study area during the wetland delineation are dominated by cattail, giant cane and alligator weed.

3.2.5 Wooded swamps

Wooded swamps are palustrine forested wetlands often associated with blackwater or brownwater rivers. In the Coastal Plain, swamps form extensive drainages that are often very wide, essentially forming “rivers” that eventually flow into true rivers. They may be flooded for several months during the growing season to nearly year round, and seldom dry out.¹¹ The canopy is dominated by bald cypress (*Taxodium distichum*) and/or pond cypress (*Taxodium ascendens*), and either swamp gum (*Nyssa sylvatica* var. *biflora*) in blackwater systems, or water tupelo in brownwater systems. These tree species have adaptations for growing in water, including swollen and buttressed bases, and, in the case of the cypress species, “knees.” Most wooded swamps within the project area were very small fringe areas on the border of the larger tidally-influenced freshwater marshes. The tidal influence prevents freshwater from flowing out of the wetlands during high tides and is necessary to maintain the inundation required by this plant community. Wooded swamps identified within the study corridor during the wetland delineation were dominated by bald cypress and swamp gum, red maple, sweetgum, and the occasional water oak, willow oak (*Quercus phellos*), and pond pine (*Pinus serotina*). The understory was limited to young canopy species, titi (*Cyrilla racemiflora*), and giant cane. Vines included poison ivy, muscadine, and various briers (*Smilax laurifolia*, *S. rotundifolia*, and *S. glauca*). The herbaceous layer was dominated by netted chain fern, and, where sunlight was not blocked by the canopy, wool-grass bulrush (*Scirpus cyperinus*), and soft rush.

3.3 RIVERS AND STREAMS

Streams present in the project corridor have been previously disturbed, primarily via channelization. Named river and/or streams within or adjacent to the study area include Back River, Shubra Canal, Clydesdale Canal, and Salt Water Creek. The Back River is an estuarine, tidal river that is approximately 2,500 feet wide in the project corridor. The riparian corridor surrounding the river is primarily comprised of big cordgrass and a shrub layer located near the upland transition zone of wax myrtle. Multiple marsh islands composed of big cordgrass are present within the Back River. Wildlife commonly found in the river include the American alligator, spotted sea trout (*Cynoscion nebulosus*), striped bass (*Morone saxatilis*), red drum (*Sciaenops ocellatus*), tarpon (*Megalops atlanticus*), sheepshead (*Archosargus probatocephalus*), largemouth bass (*Micropterus salmoides*), Atlantic croaker (*Micropogonias undulatus*), and striped mullet (*Mugil cephalus*). The proposed crossing of the Back River would occur adjacent to the new bridge that is under construction. An unnamed channel flows through a culvert under U.S. 17 and based on review of aerial photography, this stream eventually flows into Salt Water Creek, east of the project corridor. Based on the estuarine nature of abutting wetlands, this stream appears to be tidally influenced. This stream is approximately 13 to 23 feet wide at the

¹¹ Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe, *Classification of Wetlands and Deepwater Habitats of the United States*, prepared for the USDI-FWS. FWS/OBS-79/31, Washington, D.C., (1979).

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ordinary high water mark, has a sinuous channel, well defined banks, and fish were observed at the time of the field visit.

3.4 DISTURBED AREAS

In addition to the natural areas described above, the study corridor contained extensive disturbed areas. Disturbed areas are those lands that have been highly impacted by the activities of man, and are either under cultivation for crops or timber production, or are built upon for residential or commercial purposes. Those identified within the study corridor during the wetland delineation included early successional fields/woods, man-made ditches and ponds, abandoned home sites, pine plantations, maintained lawns, parking lots, vacant lots, and commercial buildings.

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SECTION 4

FEDERALLY PROTECTED SPECIES ASSESSED

Pursuant to Section 7 of the Endangered Species Act, an evaluation of potential impacts to federally protected species was conducted within the proposed U.S. 17 corridor. The red knot was not included in previous Biological Assessments because it was proposed as a candidate for listing but not yet officially listed at the time of the assessments. Due to the final listing of the red knot and the addition of Kirtland's warbler, potential habitats were evaluated for the potential presence of the red knot. The evaluation was based on literature searches, habitat evaluation, and plant community field surveys conducted during numerous site visits to complete the wetland delineation and did not include specific field sampling for the listed birds.

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SECTION 5 SPECIES DESCRIPTION AND EVALUATION RESULTS

5.1 Red Knot

The red knot (*Calidris canutus rufa*) is a stocky, medium-sized (10- to 11-inch) shorebird sometimes called “robin snipe” because in breeding plumage it has a gray back and a rusty (or red) breast. Its plumage is strikingly different in winter, when it is gray with a white rump and white wing stripe.¹²

Red knot occurs on beaches and flats, and rarely inland.¹³ It can be found year-round in the state, but does not breed here. Red knots migrate from the Canadian arctic to the southern tip of South America. Migratory shorebirds in South Carolina like red knot may be transient birds on a northbound flight in the spring, a southbound flight in the fall, or over-wintering birds.¹⁴

Migrating and over-wintering red knots primarily feed and roost while present in the southeastern part of the United States. They mostly utilize beaches for roosting but may also be found feeding on shellfish and crustaceans on mud flats, shallow waters, and oyster reefs during low tides.¹⁵

Beach habitat is not located within or immediately adjacent to the proposed project area due to its location inland from the coastline. However, tidal marsh and mudflats are located on the eastern side of the project area in the vicinity of the tidal stream as well as along the Back River at the southern terminus of the proposed project. Several different types of shorebirds were observed feeding in these areas at low tide during several site visits, although none were specifically identified as red knots. This species is known to be found at Tybee National Wildlife Refuge in Chatham County, Georgia; and Ernest F. Hollings ACE Basin National Wildlife Refuge in Beaufort County, South Carolina¹⁶, therefore it is possible that some individuals of red knot might use the tidal mudflats in the project vicinity.

Potential impacts to the red knot would mostly likely occur during construction from noise and vibrations of heavy earth-moving equipment during low tide periods. These impacts would most

¹² USFWS, Environmental Conservation Online System (ECOS), Species Profile for Red Knot (*Calidris canutus rufa*), <https://ecos.fws.gov/ecp0/profile/speciesProfile.action?spcode=BODM>, (August 16, 2016).

¹³ Eloise F. Potter, et al., *Birds of the Carolinas*, 1980, p. 155.

¹⁴ S.C. DNR, Migratory Shorebird Guild, <http://www.dnr.sc.gov/cwcs/pdf/Migratoryshorebirdguild.pdf> (August 16, 2016).

¹⁵ *Ibid.*

¹⁶ USFWS, Environmental Conservation Online System (ECOS), Species Profile for Red Knot (*Calidris canutus rufa*), <https://ecos.fws.gov/ecp0/profile/speciesProfile.action?spcode=BODM>, (August 16, 2016).

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likely be in the form of flushing feeding birds from the surrounding open tidal marshes and mudflats. These impacts would be temporary and flushed birds would relocate to other nearby feeding areas. Other impacts would be from the permanent loss of 1.8 acres of open tidal marsh and mudflats from fill for the roadway widening and from shading impacts from the new bridge, however, these impacts would be minimal relative to the total amount of open tidal marsh and mudflats in the project vicinity and would occur immediately adjacent to the existing road. In addition, a recently approved tidal wetland mitigation bank located along the north western side of the project would be managed to restore and enhance tidal marsh, thereby increasing overall available habitat for wildlife populations.

Based on these findings, it is anticipated that the project **may affect, but is not likely to adversely affect**, the red knot.

5.2 Kirtland's Warbler

Kirtland's warbler (*Setophaga kirtlandii*) is a small (approximately six inches in length) wood warbler, upperparts are blue-gray (streaked with black), underparts are yellow (with black streaks on side), white eye ring is broken by black lores and eye line, and white wing bars are indistinct.¹⁷ Kirtland's warbler is a very rare transient in South Carolina. It breeds in only a few protected stands of jack pine in Michigan and over-winters in the Bahamas. Its migration takes it across South Carolina in late April to early May, and early September to October. The bird frequents thickets and woodland edges on high ground just beyond the wet margins of lakes and swamps, often in association with flocks of other songbirds.¹⁸

Potentially suitable habitat for Kirtland's warbler is present within the study area. However, suitable habitat is common in South Carolina for transient migrants of this species and is therefore not a limiting factor for this species. Based on these findings, it is anticipated that the project would have **no affect** on Kirtland's warbler.

¹⁷ NatureServe, NatureServe Explorer: An online encyclopedia of life [web application], Version 7.1. NatureServe, Arlington, Virginia, <http://www.natureserve.org/explorer> (July 25, 2016).

¹⁸Potter, Eloise F., et. al. 1980. Birds of the Carolinas. Chapel Hill, NC: University of North Carolina Press.

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SECTION 6

SUMMARY

Based on the results of the habitat evaluation , site visits, and the SCDOT's commitment to limit proposed impacts to the existing rights-of-way, it is anticipated that the proposed project may affect, but is not likely to adversely affect, the red knot. It would have no effect on Kirtland's warbler.

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SECTION 7

REFERENCES

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe, *Classification of Wetlands and Deepwater Habitats of the United States*, FWS/OBS-79/31 (Washington, D.C.: U.S. Fish & Wildlife Service, 1979).

NatureServe. 2011. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. <http://www.natureserve.org/explorer/> (August 17, 2016).

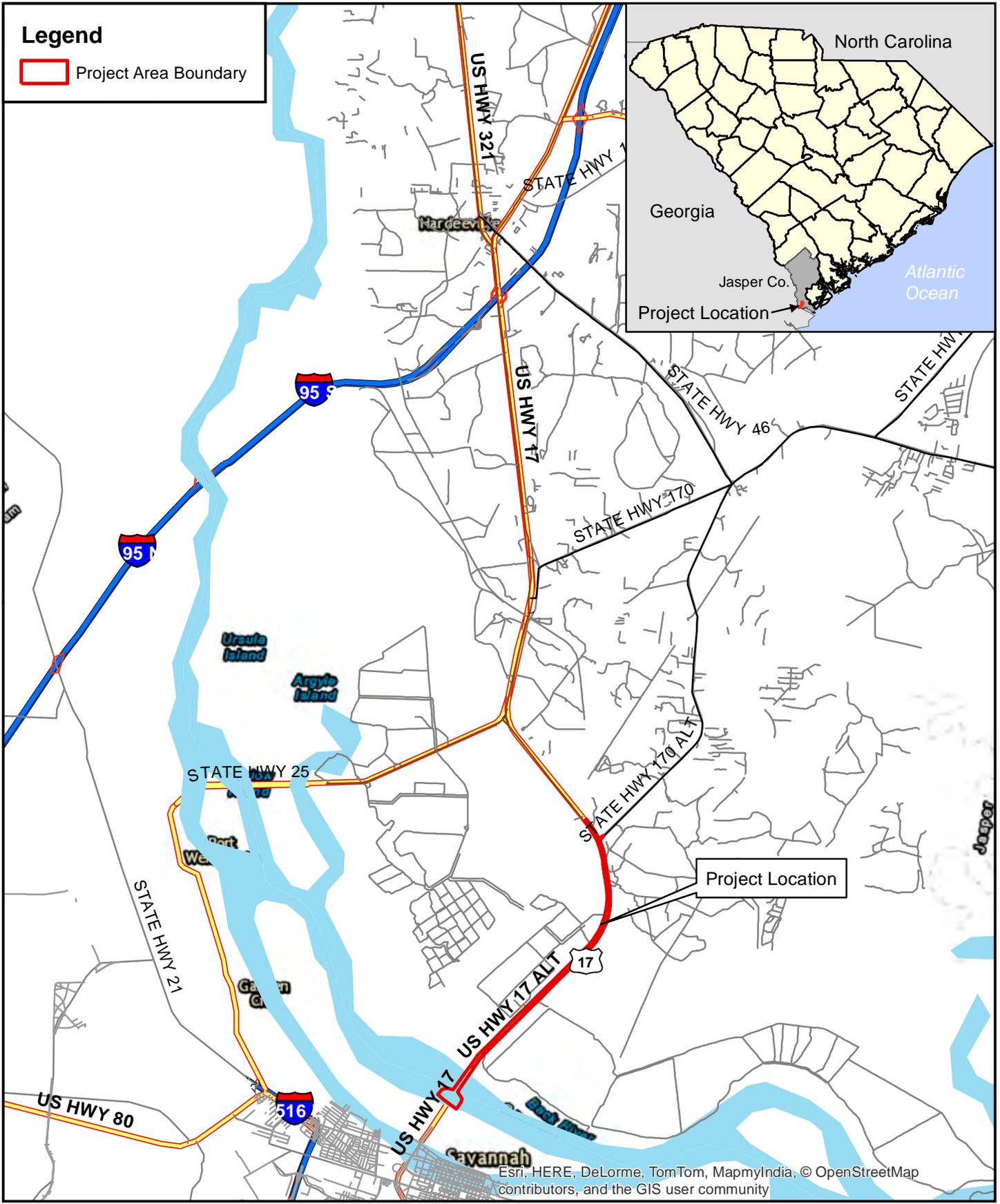
Nelson, John B., *The Natural Communities of South Carolina: Initial Classification and Description* (Columbia, SC: S.C. Wildlife & Marine Resources Department Division of Wildlife and Freshwater Fisheries, 1986).

SCDNR, Coastal Birds in South Carolina; *Red Knot & Other Long-Distance Migrants*; <https://www.dnr.sc.gov/wildlife/species/coastalbirds/shorebirds/RedKnot.html>, (August 17, 2016).

APPENDIX A
FIGURES

Legend

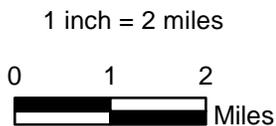
 Project Area Boundary



Esri, HERE, DeLorme, TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

SOURCE: World Imagery, ESRI, November 2013

Michael Baker
INTERNATIONAL



Project Title: U.S. Highway 17 Widening	
Project Location: Jasper County, S.C.	
Applicant: SCDOT	
Authorized Agent: Michael Baker, Intl., Inc.	
Drawing Scale: 1:126,720	Date: 08/17/2016
PROJECT LOCATION MAP	Figure: 1

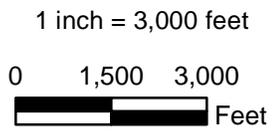
Legend

- ProjectArea_polygon *Project Area Boundary*
- Uplands
- Open Waters and Streams
- Wetlands



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

SOURCE: World Imagery, ESRI, November 2013



Project Title: U.S. Highway 17 Widening	
Project Location: Jasper County, S.C.	
Applicant: SCDOT	
Authorized Agent: Michael Baker, Intl, Inc.	
Drawing Scale: 1:36,000	Date: 08/17/2016
Community Map	Figure: 2

APPENDIX B
CORRESPONDENCE



United States Department of the Interior



FISH AND WILDLIFE SERVICE

176 Croghan Spur Road, Suite 200
Charleston, South Carolina 29407

July 1, 2014

RECEIVED

JUL - 2 2014

Mr. Edward Frierson
NEPA Coordinator
S.C. Department of Transportation
P.O. Box 191
Columbia, SC 29202-0191

Environmental Management
SCDOT

Re: Biological Survey, US-17 Widening, Chatham County, Georgia and
Jasper County, South Carolina
FWS Log No. 2014-I-0318

Dear Mr. Frierson:

The U.S. Fish and Wildlife Service (Service) has received the biological survey for the South Carolina Department of Transportation's (SCDOT) proposed widening of US Hwy 17 in Jasper County, South Carolina, and the construction of a new bridge over the Back River in Chatham County, Georgia. This survey was conducted due to a change in the original project's scope of work. The new project has been reduced from 7.5 miles to 4.2 miles in length and will begin at the US Hwy 17/SC Route 315 intersection proceeding south to the South Carolina state line shared with Georgia. In addition, a new bridge will be constructed over the Back River adjacent to the bridge currently under construction. In accordance with the National Environmental Policy Act of 1969 (NEPA) and the Endangered Species Act of 1973 (ESA), SCDOT performed a survey to determine the presence of federally protected species in the project's corridor.

A Biological Assessment (BA) was developed by SCDOT for the original 7.5 mile project in 2009. The Service reviewed the BA and concurred with SCDOT's findings on December 1, 2009. Upon review of the current, shorter project, the Service again concurs that the road widening is not likely to adversely affect the species addressed in the BA. However, the new project includes the construction of a bridge over the Back River which represents a potential threat to the West Indian manatee not considered in the Service's 2009 correspondence.

The SCDOT has evaluated the proposed bridge construction and recognizes its potential to impact the manatee. Therefore, in order to reduce potential harm SCDOT will require that equipment usage and materials for the bridge may not impede 50 percent of the river

channel to allow safe passage for the manatee during bridge construction. In addition, all contractors involved in the construction will be required to comply with the Service's Standard Manatee Conditions for In-water Work. With these precautions SCDOT has determined that the proposed activity is not likely to adversely affect the manatee.

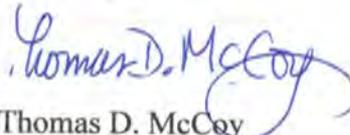
Upon review of the information provided, the Service concurs with the SCDOT determination that US Hwy 17 bridge construction over the Back River may affect, but is not likely to adversely affect the West Indian manatee. Please note that obligations under section 7 of the ESA must be reconsidered if: (1) new information reveals impacts of this identified action may affect any listed species or critical habitat in a manner not previously considered; (2) this action is subsequently modified in a manner, which was not considered in this assessment; or (3) a new species is listed or critical habitat is designated that may be affected by the identified action. The Service recommends SCDOT contact the National Oceanographic and Atmospheric Administration regarding consultation requirements and determinations regarding the Atlantic and shortnose sturgeon.

For informational purposes only, the Service has included a list of species that have been petitioned for listing under the Endangered Species Act as well as Candidate Species. These species are collectively referred to as "At-Risk Species" (ARS). We have included a list of the ARS that may occur in Jasper County, South Carolina. Although there are no Federal protections afforded to ARS, please consider including them in your survey efforts. Incorporating proactive measures to avoid or minimize harm to ARS may improve their status and assist with precluding the need to list these species. Additional information on ARS can be found at:

<http://www.fws.gov/southeast/candidateconservation>.

If you have any questions regarding the Service's determination, please do not hesitate to contact Mr. Mark Caldwell at (843) 727-4707 ext. 215, and reference FWS Log No. 2014-I-0318.

Sincerely,



Thomas D. McCoy
Acting Field Supervisor

TDM/MAC

South Carolina List of At-Risk, Candidate, Endangered, and Threatened Species - Jasper County

- * Contact National Marine Fisheries Service (NMFS) for more information on this species
- ** The U.S. Fish and Wildlife Service (FWS) and NMFS share jurisdiction of this species
- ARS At-Risk Species - Species that the FWS has been petitioned to list and for which a positive 90-day finding has been issued (listing may be warranted); information is provided only for conservation actions as no Federal protections currently exist.
- BGEPA Federally protected under the Bald and Golden Eagle Protection Act
- C FWS or NMFS has on file sufficient information on biological vulnerability and threat(s) to support proposals to list these species
- CH Critical Habitat
- E Federally Endangered
- P or P - CH Proposed for listing or critical habitat in the Federal Register
- S/A Federally protected due to similarity of appearance to a listed species
- T Federally Threatened

COUNTY	CATEGORY	COMMON NAME	SCIENTIFIC NAME	STATUS	
Jasper	Amphibian	Frosted flatwoods salamander	<i>Ambystoma cingulatum</i>	T, CH	
	Bird	Bald eagle	<i>Haliaeetus leucocephalus</i>	BGEPA	
	Bird	Black rail	<i>Laterallus jamaicensis</i>	ARS	
	Bird	Black-capped petrel	<i>Pterodroma hasitata</i>	ARS	
	Bird	MacGillivray's seaside sparrow	<i>Ammodramus maritimus macgillivrayi</i>	ARS	
	Bird	Piping plover	<i>Charadrius melodus</i>	T, CH	
	Bird	Red-cockaded woodpecker	<i>Picoides borealis</i>	E	
	Bird	Red knot	<i>Calidris canutus rufa</i>	P	
	Bird	Wood stork	<i>Mycteria americana</i>	T	
	Crustacean	None Found			
	Fish	American eel	<i>Anguilla rostrata</i>	ARS	
	Fish	Atlantic Sturgeon*	<i>Acipenser oxyrinchus*</i>	E	
	Fish	Blueback herring	<i>Alosa aestivalis</i>	ARS	
	Fish	Robust redhorse	<i>Moxostoma robustum</i>	ARS	
	Fish	Shortnose sturgeon*	<i>Acipenser brevirostrum*</i>	E	
	Insect	Rare skipper	<i>Problema bulenta</i>	ARS	
	Mammal	Finback whale*	<i>Balaenoptera physalus*</i>	E	
	Mammal	Humpback whale*	<i>Megaptera novaengliae*</i>	E	
	Mammal	Right whale*	<i>Balaena glacialis*</i>	E	
	Mammal	West Indian manatee	<i>Trichechus manatus</i>	E	
	Mollusk	Altamaha arc mussel	<i>Alasmidonta arcula</i>	ARS	
	Mollusk	Brother spike	<i>Elliptio fraterna</i>	ARS	
	Plant	American chaffseed	<i>Schwalbea americana</i>	E	
	Plant	Bog spicebush	<i>Lindera subcoriacea</i>	ARS	
	Plant	Canby's dropwort	<i>Oxypolis canbyi</i>	E	
	Plant	Carolina-birds-in-a-nest	<i>Macbridea caroliniana</i>	ARS	
	Plant	Ciliate-leaf tickseed	<i>Coreopsis integrifolia</i>	ARS	
	Plant	Ocmulgee skullcap	<i>Scutellaria ocmulgee</i>	ARS	
	Plant	Pondberry	<i>Lindera melissifolia</i>	E	
	Reptile	Eastern diamondback rattlesnake	<i>Crotalus adamanteus</i>	ARS	
	Reptile	Florida pine snake	<i>Pituophis melanoleucus mugitus</i>	ARS	
	Reptile	Gopher tortoise	<i>Gopherus polyphemus</i>	C	
	Reptile	Green sea turtle**	<i>Chelonia mydas**</i>	T	
	Reptile	Kemp's ridley sea turtle**	<i>Lepidochelys kempii**</i>	E	
	Reptile	Leatherback sea turtle**	<i>Dermochelys coriacea**</i>	E	
	Reptile	Loggerhead sea turtle**	<i>Caretta caretta**</i>	P-CH, T	
	Reptile	Southern hognose snake	<i>Heterodon simus</i>	ARS	
	Reptile	Spotted turtle	<i>Clemmys guttata</i>	ARS	

These lists should be used only as a guideline, not as the final authority. The lists include known occurrences and areas where the species has a high possibility of occurring. Records are updated as deemed necessary and may differ from earlier lists.

For a list of State endangered, threatened, and species of concern, please visit <https://www.dnr.sc.gov/species/index.html>.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

176 Croghan Spur Road, Suite 200
Charleston, South Carolina 29407



December 6, 2010

Mr. Edward Frierson
Environmental Project Manager
S.C. Department of Transportation
P.O. Box 191
Columbia, SC 29202-0191

Re: Biological Assessment, Proposed US 17 Widening
Chatham County, GA and Jasper County, SC
FWS Log No. 42410-2011-I-0073

Dear Mr. Frierson:

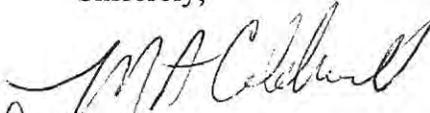
The U.S. Fish and Wildlife Service (Service) has received your October 19, 2010, Biological Assessment (BA) regarding the proposed widening of US 17. The project corridor is approximately 395 acres in size and consists of a 400' wide corridor centered on the existing US 17 roadway for a distance of 7.5 miles, extending to the south from SC 170 in Jasper County, SC, to Hutchinson Island in Chatham County, GA. The project corridor is primarily comprised of palustrine emergent, scrub-shrub, and forested wetlands, open water canals, and emergent estuarine wetlands, as well as planted pine stands, periodically maintained roadsides, mixed hardwood-pine forests, agricultural land, and commercial, institutional, and residential development. The southern-most portion of the project corridor is situated in Chatham County, GA, and includes the Back River and adjacent emergent estuarine wetlands.

The BA concludes that the proposed project may affect, but is not likely to adversely affect the red-cockaded woodpecker, wood stork, bald eagle, eastern indigo snake, and pondberry. The Service concurs with SCDOT's determination of not likely to adversely affect for the aforementioned species. Suitable habitat for the West Indian manatee is present in the project corridor and observations of the manatee have been documented near the southern-most portion of the project corridor. Due to the historical presence of the manatee in the area and the presence of suitable habitat, the SCDOT has determined the project may affect, but is not likely to adversely affect this species. Provided the SCDOT implements the Service's Manatee Construction Guidelines during bridge construction activities to reduce potential impacts, the Service concurs that the project is not likely to adversely affect the West Indian manatee.

Please note that obligations under section 7 of the Act must be reconsidered if (1) new information reveals impacts of this identified action may affect any listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner which was not considered in this assessment, or (3) a new species is listed or critical habitat is designated that may be affected by the identified action.

If you have questions regarding the Service's position on this matter or need further assistance please contact Mr. Mark Leao at (843) 727-4707 ext. 228.

Sincerely,


for Jay B. Herrington
Field Supervisor

JBH/MCL

U.S. Route 17

Widening and Bridge Over Back River

*Biological Assessment for the Atlantic and Shortnose Sturgeons
And West Indian Manatee*

**U.S. ROUTE 17 WIDENING AND BRIDGE OVER BACK RIVER – FROM
HUTCHINSON ISLAND, GA TO S.C. ROUTE 315, SC**

JASPER COUNTY, SOUTH CAROLINA AND CHATHAM COUNTY, GEORGIA

**BIOLOGICAL ASSESSMENT FOR THE ATLANTIC AND SHORTRNOSE STURGEONS
AND THE WEST INDIAN MANATEE - ADDENDUM TO BIOLOGICAL
ASSESSMENT OF DECEMBER 6, 2010**

**FWS LOG #07-FA-1278
FWS LOG #42410-2011-I-0073**

JUNE 2014

U.S. Route 17

Widening and Bridge Over Back River *Biological Assessment for the Atlantic and Shortnose Sturgeons And West Indian Manatee*

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Appendix A – Maps

Figure 1: Location Map

Figure 2: Community Map

Figure 3: SCDNR Sampling Stations Map

Appendix B – Correspondence

Appendix C – Standard Manatee Conditions for In-Water Work

U.S. Route 17

Widening and Bridge Over Back River

Biological Assessment for the Atlantic and Shortnose Sturgeons And West Indian Manatee

SECTION 1 INTRODUCTION

The South Carolina Department of Transportation (SCDOT), in cooperation with the Federal Highway Administration (FHWA), and Georgia Department of Transportation (GDOT) proposes to improve U.S. 17 (Speedway Boulevard) from the Georgia SR 404 Spur on Hutchinson Island in Chatham County, Georgia, approximately 4.2 miles north to S.C. 315 (South Okatie Highway) in Jasper County, South Carolina (refer to Appendix A, Figure 1). The improvements include the widening of U.S. 17 from two to four travel lanes separated by a median. In addition, a new bridge structure would be constructed over Back River adjacent to the bridge currently being constructed by GDOT to accommodate the additional travel lanes.

To satisfy the requirements of the National Environmental Policy Act (NEPA) and Section 7 of the Endangered Species Act, the project study corridor was surveyed for the presence of federally protected species. A Biological Assessment was prepared and was approved by the U.S. Fish and Wildlife Service (USFWS) on December 6, 2010 (refer to Appendix B). However, this Biological Assessment did not include a new bridge over the Back River, as is included in the current project concept. Coordination also occurred with USFWS and the National Oceanic and Atmospheric Administration, National Marine Fisheries Service Division (NOAA NMFS) for the construction of a new bridge over the Back River by GDOT (refer to Appendix B).

On April 6, 2012, the Atlantic sturgeon became officially listed as “Endangered” after publication of the Final Notice of listing in the Federal Register on February 6, 2012. Based upon this new listing, this Biological Assessment is being prepared to evaluate the potential for impacts to the Atlantic sturgeon by SCDOT’s proposed new bridge over the Back River. The shortnose sturgeon and West Indian manatee are also being reconsidered here due to their similarities in habitat requirements to the Atlantic sturgeon and to facilitate consultation with NOAA NMFS.

SECTION 2 METHODS

The South Carolina Department of Natural Resources (SCDNR), Heritage Trust Program's online Rare, Threatened, and Endangered Species Inventory database was accessed in order to obtain pertinent species occurrence information. The Georgia Department of Natural Resources (GDNR) also lists species of special concern and maintains a database of rare, threatened and endangered species for each county, which was also accessed to obtain project specific information.

The databases maintain mapping that documents known occurrences of rare, threatened, and endangered species for the entire state. According to the SCDNR database, there are no known occurrences of federally protected species within or immediately adjacent to the proposed project corridor. However, the GDNR database lists the Atlantic sturgeon as present within or adjacent to the proposed project corridor.

A literature search was performed for the Atlantic and shortnose sturgeons and the West Indian Manatee to determine habitat requirements and to find descriptions of the species and suitable habitat in support of this document. Important sources of reference information included natural resource agency data and published reports, the Federal Register, and available U.S. Fish & Wildlife Service (USFWS) Recovery Plans. Coordination with SCDNR fisheries biologists was also conducted.

Sampling for the presence of Atlantic and shortnose sturgeons or West Indian manatees within freshwater waterways were not performed. Instead, this assessment relies on evaluation of the presence of potential habitat and the results of resource and regulatory agency studies regarding the presence of Atlantic and shortnose sturgeons and West Indian Manatees.

Widening and Bridge Over Back River *Biological Assessment for the Atlantic and Shortnose Sturgeons And West Indian Manatee*

SECTION 3 BIOTIC COMMUNITIES

The study area for the proposed project corridor was generally classified based on the vegetative composition using those habitats described in *The Natural Communities of South Carolina*¹ and *Classification of Wetlands and Deepwater Habitats of the United States*.² Using these references, the following biotic communities were identified as occurring within the project corridor.

3.1 UPLANDS

Uplands are generally dry areas with the water table one foot or more below ground level during the growing season. Uplands identified within the study area during the field surveys included mesic mixed hardwood forest and pine flatwoods.

3.1.1 Mesic mixed hardwood forest

Mesic mixed hardwood forests are uplands primarily on slopes and ravines in the Piedmont, but also occurring on the Coastal Plain on north-facing river bluffs. The canopy and understory is composed of a rich variety of hardwoods, and the herbaceous and shrub species are numerous. It may be difficult or impossible to recognize a single dominant species.³ These forests identified within the Preferred Alternative study corridor during the field investigations were dominated by tulip-poplar (*Liriodendron tulipifera*), sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), black gum (*Nyssa sylvatica*), and white oak (*Quercus alba*). The understory had hornbeam (*Carpinus caroliniana*), American holly (*Ilex opaca*), horse-sugar or sweetleaf (*Symplocos tinctoria*), and flowering dogwood (*Cornus florida*). The herbaceous layer may include partridgeberry (*Mitchella repens*), heartleaf (*Hexastylis arifolia*), and pipsissewa (*Chimaphila maculata*).

3.1.2 Pine flatwoods

This is the dominant natural upland habitat in the study corridor. Pine flatwoods are uplands with an essentially flat or rolling terrain, sandy soil, and a high water table. They have a canopy of pines and a well-developed sub-canopy of several tall shrub species. These habitats are successional from the abandonment of cropland, and quickly succeed to deciduous hardwood-dominated forests. If fire is maintained, they frequently grade into pine savannah habitat.⁴ Pine flatwoods identified within the study corridor were dominated by loblolly pine (*Pinus taeda*),

¹ John B. Nelson, *The Natural Communities of South Carolina: Initial Classification and Description* (Columbia, SC: S.C. Wildlife & Marine Resources Department Division of Wildlife and Freshwater Fisheries, 1986).

² L.M. Cowardin, V. Carter, F.C. Golet, and E.T. LaRoe, *Classification of Wetlands and Deepwater Habitats of the United States*, FWS/OBS-79/31 (Washington, D.C.: U.S. Fish & Wildlife Service, 1979).

³ John B. Nelson, *The Natural Communities of South Carolina: Initial Classification and Description* (Columbia, SC: S.C. Wildlife & Marine Resources Department Division of Wildlife and Freshwater Fisheries, 1986).

⁴ *Ibid.*

Widening and Bridge Over Back River

Biological Assessment for the Atlantic and Shortnose Sturgeons And West Indian Manatee

water oak (*Quercus nigra*), black gum, red maple, black cherry (*Prunus serotina*), and sweetgum in the canopy or near-canopy layer. The understory consisted of sweetleaf, sparkleberry (*Vaccinium arboreum*), wax myrtle (*Morella cerifera*), persimmon (*Diospyros virginiana*), and beautyberry (*Callicarpa americana*), with the occasional eastern red cedar (*Juniperus virginiana*), highbush blueberry (*Vaccinium corymbosum*), and sassafras (*Sassafras albidum*). Woody vines included briars (*Smilax rotundifolia*, and *S. glauca*), yellow jessamine (*Gelsemium sempervirens*), muscadine (*Vitis rotundifolia*), poison ivy (*Toxicodendron radicans*), and Japanese honeysuckle (*Lonicera japonica*). The herbaceous layer was dominated by bracken fern (*Pteridium aquilinum*), silver-leaved grass (*Heterotheca graminifolia*), and ebony spleenwort (*Asplenium platyneuron*).

3.2 WETLANDS

Wetlands are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands identified within the study area during the field surveys included salt marsh/salt scrub thicket, bottomland hardwoods, freshwater marshes, ponds/borrow pits, and wooded swamps.

3.2.1 Salt Marsh/Salt Scrub Thicket

Salt marsh/salt scrub thicket is the dominant wetland type within the study corridor. This wetland type occurs along roadway shoulder where a road historically bisected the marsh. The salt marsh community is reasonably species-poor and is often nearly totally dominated by *Spartina* spp., especially *S. alterniflora* (smooth cordgrass), with *Spartina patens* and *Distichlis spicata* as common associates.⁵ The salt shrub thicket is an estuarine wetland consisting of a narrow band of salt-tolerant shrubs growing between salt marsh and more upland areas. These shrubs usually consist of various sea-myrtles (*Baccharis* spp.), marsh-elder (*Iva frutescens*), sea-oxeye (*Borrchia frutescens*), wax-myrtle, cabbage palm (*Sabal palmetto*), and southern red-cedar (*Juniperus silicicola*).⁶ The salt marsh and salt scrub thicket wetlands within the project corridor are dominated by smooth cordgrass (*Spartina alterniflora*), big cordgrass (*S. cynosuroides*), and black needlerush (*Juncus roemerianus*) with small areas of glasswort (*Salicornia ssp.*) at the margin of the unvegetated tidal flats. Some areas were dominated by giant reed (*Phragmites communis*), an invasive, non-native species. Shrubby species along marsh boundaries included sea-myrtles, marsh-elder, sea-oxeye, wax-myrtle, sweetgum saplings, red maple saplings, and southern red-cedar.

⁵ Nelson, John B. 1986. *The Natural Communities of South Carolina: Initial Classification and Description*. Columbia, SC: South Carolina Wildlife and Marine Resources Department Division of Wildlife and Freshwater Fisheries.

⁶ *Ibid.*

Widening and Bridge Over Back River *Biological Assessment for the Atlantic and Shortnose Sturgeons And West Indian Manatee*

3.2.2 Bottomland hardwoods

Bottomland hardwoods occur within the project corridor along the interface between freshwater and salt water communities with scrub-shrub areas on maintained fringes. Bottomland hardwoods are palustrine wetlands frequently flooded by and associated with river systems, creeks, or other drainages. These floodplains are flat and somewhat elevated above the adjoining swamp, and are often dissected.⁷ Dominant tree species contained within the bottomland hardwoods and scrub-shrub wetlands include sweetgum, bald cypress (*Taxodium distichum*), red maple, water tupelo (*Nyssa aquatica*), Chinese tallow (*Sapium sebiferum*), swamp chestnut oak (*Quercus michauxii*), and water oak. Dominant saplings and shrubs in the bottomland hardwoods and scrub-shrub wetland communities include red maple, sweetgum, Chinese tallow, black willow (*Salix nigra*), groundsel-tree (*Baccharis hamilifolia*), elderberry (*Sambucus canadensis*), loblolly pine, wax myrtle, and dwarf palmetto (*Sabal minor*). Dominant herbaceous species of the bottomland hardwoods and scrub-shrub wetland communities include: lizard's tail (*Saururus cernuus*), netted chain fern (*Woodwardia areolata*), cinnamon fern (*Osmunda cinnamomea*), royal fern (*O. regalis*), soft rush (*Juncus effusus*), rice cutgrass (*Leersia oryzoides*) and spikerush (*Eleocharis sp.*).

3.2.3 Freshwater marshes

Freshwater marshes are open wetlands with a widely fluctuating water level, usually every year, dominated by emergent grasses, sedges, and rushes. This type of wetland is typically associated with deeper water wetlands, but can also be found where trees are kept at bay in power line and roadway rights-of-way and other places where man prevents succession into, or back into, wooded wetlands.⁸ The freshwater marsh areas vary in vegetative composition. Dominant vegetation observed in the emergent wetlands include various sedges (*Carex sp.*), beaksedge (*Rhynchospora sp.*), Vasey's grass (*Paspalum urvillei*), marsh pennywort (*Hydrocotyle americana*), spikerush, soft rush, cattail (*Typha latifolia*), velvet panic grass (*Dichanthelium commutatum*), alligator weed (*Alternanthera philoxeroides*), and giant cane (*Arundinaria gigantea*).

3.2.4 Ponds and borrow pits

Ponds and borrow pits are typically manmade, open, freshwater communities. These water bodies are generally created by excavation activities, or altering stream or surface drainage flow. These ponds are created by excavation in uplands (borrow pits, agricultural ponds), or by damming or otherwise altering slow-moving streams by man or beavers (impoundments). Fringe wetlands are often found associated with ponds and borrow pits to form a freshwater wetland system. Those identified within the study area during the wetland delineation are dominated by cattail, giant cane and alligator weed.

⁷ *Ibid.*

⁸ *Ibid.*

Widening and Bridge Over Back River

Biological Assessment for the Atlantic and Shortnose Sturgeons And West Indian Manatee

3.2.5 Wooded swamps

Wooded swamps are palustrine forested wetlands often associated with blackwater or brownwater rivers. In the Coastal Plain, swamps form extensive drainages that are often very wide, essentially forming “rivers” that eventually flow into true rivers. They may be flooded for several months during the growing season to nearly year round, and seldom dry out.⁹ The canopy is dominated by bald cypress (*Taxodium distichum*) and/or pond cypress (*Taxodium ascendens*), and either swamp gum (*Nyssa sylvatica* var. *biflora*) in blackwater systems, or water tupelo in brownwater systems. These tree species have adaptations for growing in water, including swollen and buttressed bases, and, in the case of the cypress species, “knees.” Most wooded swamps within the project area were very small fringe areas on the border of the larger tidally-influenced freshwater marshes. The tidal influence prevents freshwater from flowing out of the wetlands during high tides and is necessary to maintain the inundation required by this plant community. Wooded swamps identified within the study corridor during the wetland delineation were dominated by bald cypress and swamp gum, red maple, sweetgum, and the occasional water oak, willow oak (*Quercus phellos*), and pond pine (*Pinus serotina*). The understory was limited to young canopy species, titi (*Cyrilla racemiflora*), and giant cane. Vines included poison ivy, muscadine, and various briers (*Smilax laurifolia*, *S. rotundifolia*, and *S. glauca*). The herbaceous layer was dominated by netted chain fern, and, where sunlight was not blocked by the canopy, wool-grass bulrush (*Scirpus cyperinus*), and soft rush.

3.3 RIVERS AND STREAMS

Streams present in the project corridor have been previously disturbed, primarily via channelization. Named river and/or streams within or adjacent to the study area include Back River, Shubra Canal, Clydesdale Canal, and Salt Water Creek. The Back River is an estuarine, tidal river that is approximately 2,500 feet wide in the project corridor. The riparian corridor surrounding the river is primarily comprised of big cordgrass and a shrub layer located near the upland transition zone of wax myrtle. Multiple marsh islands composed of big cordgrass are present within the Back River. Wildlife commonly found in the river include the American alligator, spotted sea trout (*Cynoscion nebulosus*), striped bass (*Morone saxatilis*), red drum (*Sciaenops ocellatus*), tarpon (*Megalops atlanticus*), sheepshead (*Archosargus probatocephalus*), largemouth bass (*Micropterus salmoides*), Atlantic croaker (*Micropogonias undulatus*), and striped mullet (*Mugil cephalus*). The proposed crossing of the Back River would occur adjacent to the new bridge that is under construction. An unnamed channel flows through a culvert under U.S. 17 and based on review of aerial photography, this stream eventually flows into Salt Water Creek, east of the project corridor. Based on the estuarine nature of abutting wetlands, this stream appears to be tidally influenced. This stream is approximately 13 to 23 feet wide at the ordinary high water mark, has a sinuous channel, well defined banks, and fish were observed at the time of the field visit.

⁹ Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe, *Classification of Wetlands and Deepwater Habitats of the United States*, prepared for the USDI-FWS. FWS/OBS-79/31, Washington, D.C., (1979).

3.4 DISTURBED AREAS

In addition to the natural areas described above, the study corridor contained extensive disturbed areas. Disturbed areas are those lands that have been highly impacted by the activities of man, and are either under cultivation for crops or timber production, or are built upon for residential or commercial purposes. Those identified within the study corridor during the wetland delineation included early successional fields/woods, man-made ditches and ponds, abandoned home sites, pine plantations, maintained lawns, parking lots, vacant lots, and commercial buildings.

Widening and Bridge Over Back River *Biological Assessment for the Atlantic and Shortnose Sturgeons And West Indian Manatee*

SECTION 4 FEDERALLY PROTECTED SPECIES ASSESSED

Pursuant to Section 7 of the Endangered Species Act, an evaluation of potential impacts to federally protected species was conducted within the proposed U.S. 17 corridor. The Atlantic sturgeon was not included in previous Biological Assessments because it was not yet proposed for listing. Due to the recent listing of the Atlantic sturgeon, potential habitats were evaluated for the presence of both the Atlantic and shortnose sturgeons. The West Indian manatee also requires similar habitat and, therefore, is assessed here. The evaluation was based on literature searches, habitat evaluation, and personal communication with SCDNR fisheries biologist and did not include field sampling.

According to SCDNR, they have one fish sampling station located on the Back River for the purpose of tracking the migration of radio-tagged Atlantic and shortnose sturgeon. The sampling station is located at River Mile 4 of the Back River near Savannah, Georgia. SCDNR indicated that based on past fish sampling efforts and experience with sturgeons, most migrate up the Savannah River to spawn. Based on the results of their tagged fish surveys, they have records from 2010 through 2013 of both the Atlantic and shortnose sturgeon present in the Back River at the River Mile 4 sampling station, which is located approximately one river-mile upstream of the U.S. 17 bridge crossing. They indicated that other untagged sturgeon could be present in the Back River; however, based on the description of the habitat at the proposed U.S. 17 crossing, it is not likely that sturgeons would be present except during migration to and from spawning areas further upstream.¹⁰

¹⁰ Personal communication with Bill Post (SCDNR Marine Resource Research Institute). April 17, 2014.

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Biological Assessment for the Atlantic and Shortnose Sturgeons
And West Indian Manatee

SECTION 5
SPECIES DESCRIPTIONS AND EVALUATION RESULTS

5.1 ATLANTIC STURGEON

The Atlantic sturgeon (*Acipenser oxyrinchus*) is a long-lived fish (up to 60 years) that reaches a maximum length of around fourteen feet and a weight of 800 pounds.¹¹ Instead of scales, this fish has rows of boney plates called scutes that are located on the head, each side, and the belly. The lighter colored scutes with their spines contrast with the darker body.¹² The snout is shovel shaped, longer, and more sharply v-shaped than that of the shortnose sturgeon. The body color is blue-black on the back shading to white on the belly as opposed to an olive-gray for the shortnose sturgeon and green above for the green sturgeon.¹³ Sturgeons have mouths with large fleshy barbells that protrude from the underside of the snout, enabling foraging along the substrate for prey items such as mussels and crustaceans.

The Atlantic sturgeon is found in riverine, estuarine, and near-shore marine environments of eastern North America and the Atlantic Ocean. Spawning and larval stages of the life cycle typically occur in freshwater channels of large, unobstructed river basins from as far inland as the fall line to the zone of tidal influence in estuarine or brackish channels. Atlantic sturgeon has been documented foraging near the freshwater/saltwater interface in riverine and estuarine environments, i.e., sounds and bays of river basin deltas. In South Carolina, the drainage basins utilized by adults are the Great Pee Dee, Waccamaw, Sampit, Santee, Lake Moultrie, Cooper, Ashley, ACE Basin (Ashepoo, Combahee and Edisto rivers), and Savannah. In Georgia, drainage basins known to be utilized by adults include the Savannah, Ogeechee, Altamaha, and the Satilla.

During February and March, spawning adults move inland up the major river basins.¹⁴ In South Carolina spawning is assumed to occur in the Santee, at least one of the ACE Basin tributaries, the Savannah and possibly the Cooper, Great Pee Dee and Waccamaw Rivers based on the collection of juveniles less than one year of age from these rivers.¹⁵ In Georgia, spawning is

¹¹ National Marine Fisheries Service (NMFS). 2012. Endangered and Threatened Wildlife and Plants; Final Listing Determinations for Two Distinct Population Segments of Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) in the Southeast, Federal Register 77(24):5914-5982.

¹² NatureServe. 2011. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (April 28, 2014).

¹³ *Ibid.*

¹⁴ NMFS. 2012. Endangered and Threatened Wildlife and Plants; Final Listing Determinations for Two Distinct Population Segments of Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) in the Southeast, Federal Register 77(24):5914-5982.

¹⁵ Mark R. Collins & Theodore I. J. Smith, *Management Briefs: Distributions of Shortnose and Atlantic Sturgeons in South Carolina*, North American Journal of Fisheries Management, 17:4, 995-1000, 1997.

Widening and Bridge Over Back River

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known to occur in the Savannah, Ogeechee, Altamaha, and Satilla Rivers.¹⁶ The most recent documentation from telemetry data of Atlantic sturgeon in the Back River at river mile 4 is February through May of 2013 by a total of 6 individuals. Threats include alteration of habitat due to damming of rivers, dredging of channels, pollution, climate change, and incidental take by commercial fisheries.¹⁷

The Back River is in the Savannah basin, which is a known suitable spawning migration corridor for the species. The proposed project would cross the Back River. The closest documented occurrence by trawl netting of this species is located just north of the bridge within the study corridor in 2001.¹⁸ The Back River has a tide gate just below the proposed bridge crossing but migrating sturgeon bypass the tide gate and enter the Back River from the Front River at the confluence of the two rivers above Hutchinson Island.

As a result of discussions with the NMFS on past projects, the SCDOT has agreed to implement certain conditions on construction and demolition activities that could potentially disturb migrating Atlantic sturgeon in the vicinity of the project. SCDOT has agreed to implement a seasonal moratorium for all in-water work between December 1 and April 30. During January through April, construction-related equipment or materials will not impede more than 50 percent of the river channel. No special measures would be employed outside of this moratorium except for normal Best Management Practices. The seasonal moratorium and construction conditions would prevent impacts to the Atlantic sturgeon in the same manner as the shortnose sturgeon. Based on these findings, it is anticipated that the project may affect, but is not likely to adversely affect, the Atlantic sturgeon.

5.2 SHORTNOSE STURGEON

The shortnose sturgeon (*Acipenser brevirostrum*) is a primitive fish that reaches a maximum length of around four feet. Similar to the Atlantic sturgeon, this fish has five rows of bony plates called scutes that run the length of the body with one row located on each side, one down the back, and two down the belly. Color is olive gray to yellowish brown, with darker coloration along the top of the body, and a pale underside. The upper lobe of the forked tail is longer than the lower. Sturgeons have mouths that protrude from the underside of the snout, enabling foraging along the substrate for prey items such as mussels and crustaceans. The snout of shortnose sturgeon is shorter and blunter than that of the Atlantic sturgeon.

The shortnose sturgeon is found in riverine, estuarine, and occasionally near-shore marine environments of eastern North America and the Atlantic Ocean. Spawning and larval stages of

¹⁶ NMFS. 2012. Endangered and Threatened Wildlife and Plants; Final Listing Determinations for Two Distinct Population Segments of Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) in the Southeast, Federal Register 77(24):5914-5982.

¹⁷ NOAA, *Atlantic Sturgeon (Acipenser oxyrinchus oxyrinchus); Threats*, <http://www.nmfs.noaa.gov/pr/species/fish/atlanticsturgeon.htm#threats> (April 8, 2014).

¹⁸ Bill Post, SCDNR, personal communication by email, April 17, 2014 9:18 AM.

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the life cycle typically occur in freshwater channels of large, unobstructed river basins from as far inland as the fall line to the zone of tidal influence in estuarine or brackish channels. Foraging occurs near the freshwater/saltwater interface in riverine and estuarine environments, i.e., sounds and bays of river basin deltas. In South Carolina, the drainage basins utilized for spawning and foraging are the Pee Dee/Waccamaw, Santee, Cooper, ACE Basin (Ashepoo, Combahee and Edisto rivers), and Savannah. Threats include pollution, incidental take by commercial fisheries, impingement at hydroelectric and nuclear power intakes, poaching, and alteration of habitat due to damming of rivers.¹⁹

Suitable habitat for shortnose sturgeon is present within the study corridor. The Savannah River (Front and Back River channels) does represent a suitable spawning migration corridor for the species. Based on studies performed in other river basins, it is believed that they remain near the freshwater/saltwater interface for much of the year. However, from January to March those individuals in the southeastern United States migrate upstream to spawn for a period of about three weeks. These spawning migrations have not been thoroughly studied in the Savannah River basin, but it is possible that spawning sturgeons migrate through or utilize portions of the Savannah and Back Rivers during their spawning migrations. The proposed project would cross the Back River, with the closest documented occurrence of this species located within one mile from the study corridor in the Back River at River Mile 4.²⁰ The most recent documentation from telemetry data of shortnose sturgeon in the Back River at River Mile 4 is January through June of 2013 by a total of eight individuals. The Back River has a tide gate just below the proposed bridge crossing but migrating sturgeon could bypass the tide gate and enter the Back River from the Front River at the conjunction of the two rivers above Hutchinson Island.

According to the *Recovery Plan for the Shortnose Sturgeon* (NMFS 1998),²¹ any blasting that may occur in association with construction or demolition of bridges could potentially impact the shortnose sturgeon due to shock wave damage to the air bladder of the fish. Bridge demolition in the Back River would not occur during the construction of the new U.S. 17 bridge proposed by SCDOT. The old bridge will be removed after the construction of the new bridge currently under construction by GDOT and prior to the construction of the new SCDOT bridge. Removal of the old bridge would include all of the above water portions of the superstructure and the piles will be removed at the water bottom to prevent disturbance of the river channel, therefore, removal of the old bridge would cause minimal impacts to any sturgeon in the vicinity of the bridge outside of the usual migration period.

As mentioned previously, SCDOT has agreed to implement a seasonal moratorium for all in-water work between December 1 and April 30 and work will not impede more than 50 percent of the river channel during January through April. No special measures would be employed outside

¹⁹ Shortnose Sturgeon Recovery Team, *Recovery Plan for the Shortnose Sturgeon (Acipenser brevirostrum)* (Washington, DC: National Marine Fisheries Service, 1998).

²⁰ Bill Post, SCDNR, personal communication by email, April 17, 2014 9:18 AM.

²¹ Shortnose Sturgeon Recovery Team, *Recovery Plan for the Shortnose Sturgeon (Acipenser brevirostrum)* (Washington, DC: National Marine Fisheries Service, 1998).

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of this moratorium except for normal Best Management Practices. Based on these findings, it is anticipated that the project may affect, but is not likely to adversely affect, the shortnose sturgeon.

5.3 WEST INDIAN MANATEE

The West Indian manatee (*Trichechus manatus*) is totally aquatic, with a slate gray to brown body that is rounded and tapered at both ends. It has a short neck, and a small head with a squarish snout and a large upper lip bearing numerous stiff hairs. There are only a few scattered hairs on the remainder of the body. The eye and ear are very small and it is lacking external ears. The hind limbs are vestigial and the forelimbs are paddle like. The tail is a horizontally flattened oval fluke. The manatee can grow to ten to thirteen feet long, and can weigh as much as 1,100 pounds.²²

In general, the manatee lives in coastal waters, estuaries, and freshwater streams bordering tropical and sub-tropical seas. It has been reported in the coastal waters of South Carolina, though its principal stronghold is Florida. It cannot tolerate cold water and rarely strays from warmer latitudes; therefore, its appearance north of Florida is incidental and it is often found at discharges of warm water. The primary threat to its survival is injury or death from propellers of motor boats.²³

The Back River provides suitable habitat for the West Indian manatee. According to “Ecology Assessment/Description of Jurisdictional Wetland, Non-Wetland Waters of the U.S., and Protected Species Survey,” prepared by the GDOT Office of Environment/Location (GDOT, 2007), the Natural Heritage Program has noted observations of manatee 0.40 mile southwest of the Back River Bridge. The USFWS also confirms the presence of manatees in the vicinity of the project area in a response letter dated December 10, 2010 sent to SCDOT regarding the earlier Biological Assessment for this project. The seasonal moratorium for all in-water work between December 1 and April 30 would benefit the West Indian manatee in the same manner as the Atlantic and shortnose sturgeon. During January through April, construction-related equipment or materials will not impede more than 50 percent of the river channel. This restriction would also benefit the West Indian manatee by allowing passage through the construction zone. SCDOT will also require that contractors comply with “STANDARD MANATEE CONDITIONS FOR IN-WATER WORK” (See Appendix C). SCDOT shall also abide by the following special conditions:

- a. SCDOT shall instruct all personnel associated with the project of the potential presence of manatees and the need to avoid collisions with manatees. All construction personnel must monitor water-related activities for the presence of manatee(s) during May 15th through October 15th.

²² Webster, Wm. David, et al. 1985. *Mammals of the Carolinas, Virginia, and Maryland*. Chapel Hill: University of North Carolina Press, 255 pages.

²³ *Ibid.*, pages 224-225.

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- b. SCDOT shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973.
- c. Any siltation barriers used during the project shall be made of material in which manatees cannot become entangled and must be properly secured, and regularly monitored to avoid manatee entrapment.
- d. All vessels associated with the project shall operate at “no wake/idle” speeds at all times while in the construction area and while in water where the draft of vessels provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- e. If manatee(s) are seen within 100 yards of the active construction area all appropriate precautions shall be implemented to ensure protection of the manatee. These precautions shall include the operation of all moving equipment no closer than fifty feet to a manatee. Operation of any equipment closer than fifty feet to a manatee shall necessitate immediate shutdown of that equipment. Activities will not resume until the manatee(s) has departed the project area of its own volition.
- f. Any collision with and/or injury to a manatee shall be reported immediately to Mr. Jim Valade of the U.S. Fish and Wildlife Service, North Florida Field Office, at (904) 731-3116.

Due to the historical presence of manatees and the presence of suitable habitat, the project may affect, but is not likely adversely affect this species.

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SECTION 6 SUMMARY

Based on the results of the habitat evaluation, results of SCDNR's sampling efforts, and the SCDOT's commitment to the seasonal moratorium on in-water work during the sturgeon migration period, it is anticipated that the proposed project may affect, but is not likely to adversely affect, the Atlantic or shortnose sturgeon nor the West Indian manatee.

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And West Indian Manatee

SECTION 7
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National Marine Fisheries Service. 2012. *Endangered and Threatened Wildlife and Plants; Final Listing Determinations for Two Distinct Population Segments of Atlantic Sturgeon (Acipenser oxyrinchus oxyrinchus) in the Southeast*, Federal Register 77(24):5914-5982.

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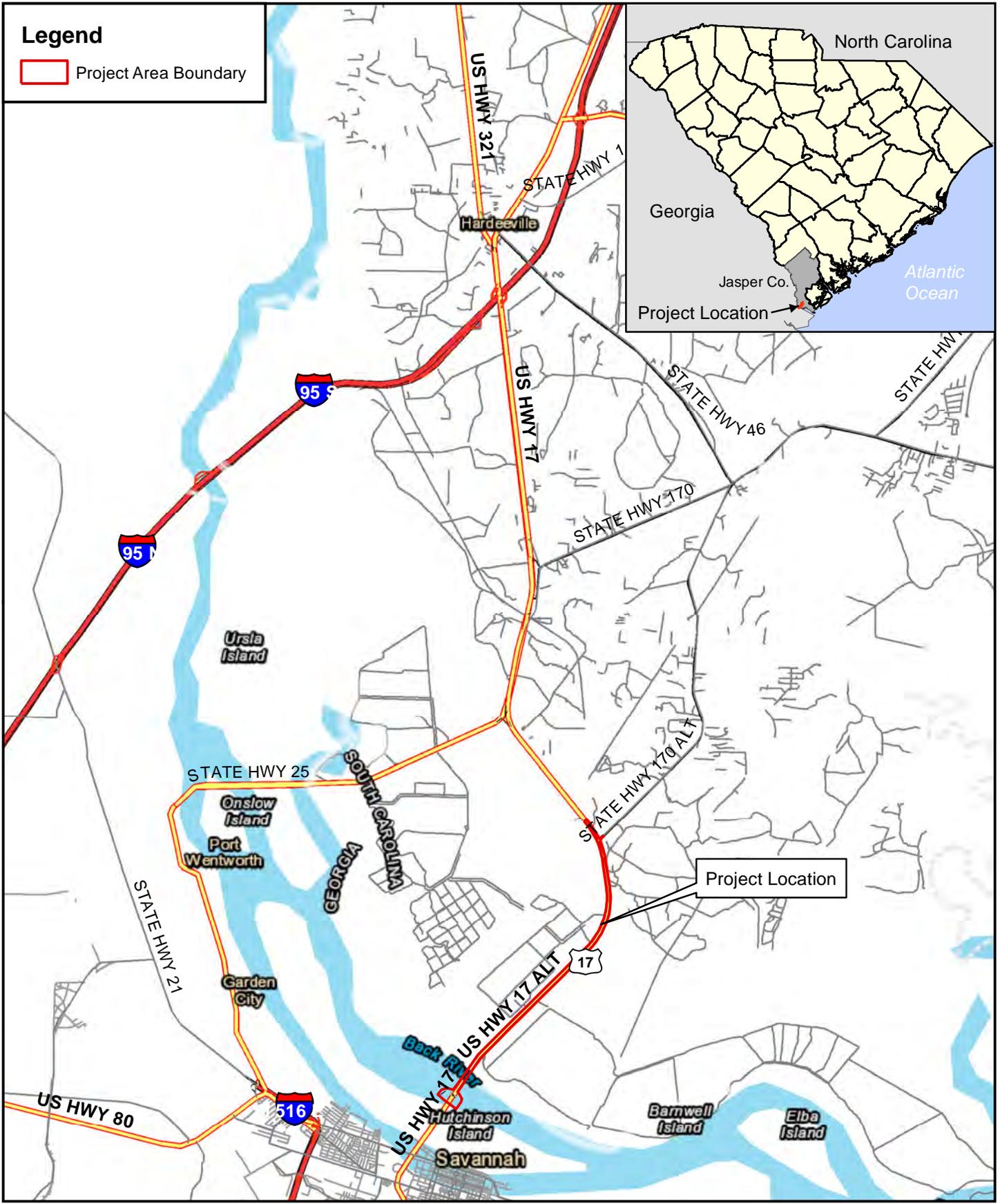
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APPENDIX A

Legend

 Project Area Boundary



SOURCE: World Imagery, ESRI, November 2013



1 inch = 2 miles



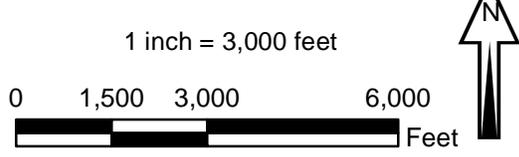
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Project Location: Jasper County, S.C.	
Applicant: SCDOT	
Authorized Agent: Michael Baker, Jr., Inc.	
Drawing Scale: 1:126,720	Date: 02/07/2014
PROJECT LOCATION MAP	Figure: 1

Legend

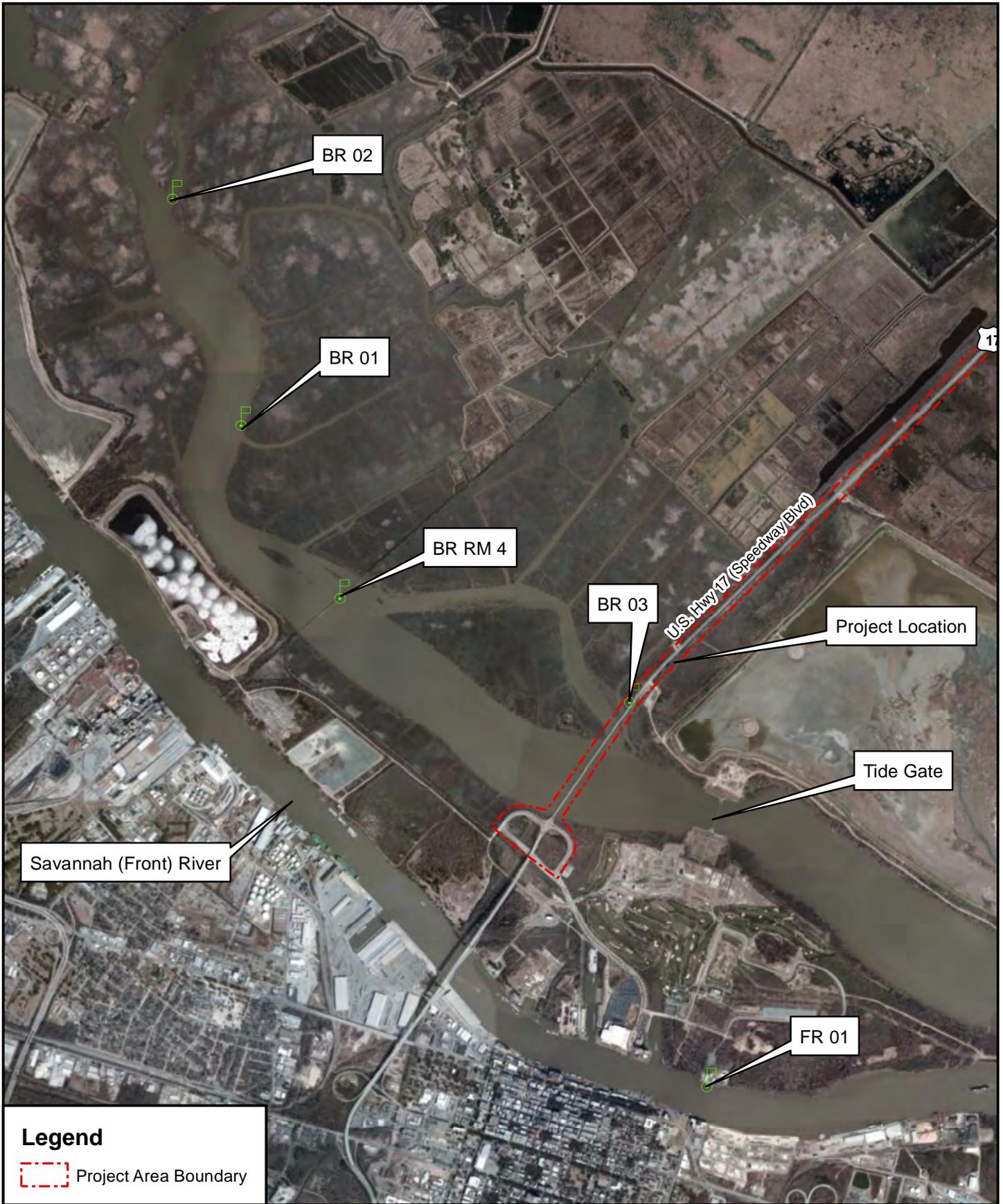
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- Uplands
- Open Waters and Streams
- Wetlands



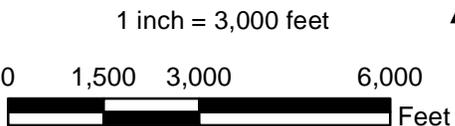
SOURCE: World Imagery, ESRI, November 2013



Project Title: U.S. Highway 17 Widening	
Project Location: Jasper County, S.C.	
Applicant: SCDOT	
Authorized Agent: Michael Baker, Jr., Inc.	
Drawing Scale: 1:36,000	Date: 02/07/2014
Community Map	Figure: 2



SOURCE: World Imagery, ESRI, November 2013



Project Title: U.S. Highway 17 Widening	
Project Location: Jasper County, S.C.	
Applicant: SCDOT	
Authorized Agent: Michael Baker, Jr., Inc.	
Drawing Scale: 1:36,000	Date: 02/07/2014
Sampling Stations Map	Figure: 3

APPENDIX B

RECEIVED SEP - 4 2007



United States Department of the Interior

Fish and Wildlife Service

105 West Park Drive, Suite D
Athens, Georgia 30606

West Georgia Sub Office
P.O. Box 52560
Ft. Benning, Georgia 31995-2560

Coastal Sub Office
4270 Norwich Street
Brunswick, Georgia 31520

AUG 21 2007

Mr. Rodney N. Barry, P.E.
Division Administrator
Federal Highway Administration
61 Forsyth Street, S.W., Suite 17T100
Atlanta, Georgia 30303
ATTN: Jennifer Giersch

Re: FWS #07-FA-1278

Dear Mr. Barry:

Thank you for your correspondence received June 4, 2007, initiating informal section 7 consultation for Georgia Department of Transportation (GDOT) project NH-009-2(93) (PI #522920) in Chatham County, Georgia and Jasper County, South Carolina. The Brunswick Ecological Services (ES) Coastal Sub Office is working in cooperation with the Charleston ES Office. Our office will retain the lead on this consultation and will serve as the contact point for future correspondence.

The proposed project would replace a structurally deficient bridge on SR404/US17 over the Back River and reconstruct the bridge approaches. The existing bridge connects Hutchinson Island with South Carolina. Two deceleration lanes would be added to the existing roadway. One deceleration lane will allow traffic to exit onto Hutchinson Island. The second deceleration lane would allow access to an unnamed access road north of the bridge in South Carolina. The current right-of-way varies in width from 200 to 300 feet and the proposed right-of-way would be 200 feet, so no additional right-of-way is necessary. The total length of the proposed project is approximately 4520 feet (0.86 mile). The proposed project is located in the Lower Savannah River basin, Hydrologic Unit Code (HUC) 03060109.

These comments are provided in accordance with provisions of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (ESA) and the Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq.*) (FWCA) to further the conservation of fish and wildlife resources and their habitat, including federally listed threatened and endangered species.

The Charleston ES office recommends the old bridge structure be reused to supplement artificial reefs and improve the fish habitat along South Carolina's coast. Recycling the structure for use as artificial reef material not only saves landfill space but may also reduce the overall cost of the project. We recommend that GDOT and the bridge contractor contact Mr. Robert Martore, Office of Fisheries Management, South Carolina Department of Natural Resources, at (843) 953-9303 for further information on South Carolina's artificial reef program.

We recommend that GDOT seek onsite mitigation opportunities. If no onsite mitigation opportunities exist we request that all salt marsh impacts be mitigated by restoration of salt marsh. There is a shortage of salt marsh mitigation credits available and we do not believe that freshwater mitigation credits are an equal substitution for salt marsh impacts.

We also recommend you consider impacts to state listed species as well as those protected by the ESA. Enclosed you will find the most recent list of state species for Jasper County, South Carolina. You may find the most recent documentation of state listed species in Georgia by visiting the Georgia Department of Natural Resources Nongame Conservation Service website at www.georgiawildlife.com/content/specieslocationbycounty.asp?lstCounty=Chatham.

The field survey of the project corridor identified the presence or potential presence of two species listed under the ESA. Potentially suitable wood stork (*Mycteria americana*) and West Indian manatee (*Trichechus manatus*) habitat was identified in and around the proposed project work area. The proposed project lies within the forage range of several wood stork rookeries. The two closest rookeries are approximately 21 miles to the south in Bryan and Liberty Counties.

Special Provision 107.23G, "Protection of Federally Threatened and/or Endangered Species", has been included in the project proposal for the protection of wood storks and West Indian manatees. This special provision requires construction activity to stop upon sighting of a wood stork and to only resume construction when all wood storks are out of the project area for a minimum of 30 minutes. Requirements contained in the special provision for the protection of manatees include the following: manatee caution signs to be installed in the project area, all vessels are to operate at idle speed, trained spotters will be present during certain phases of construction, personnel will be required to look out for manatees at all times, propeller guards will be installed on vessels, and that all construction/demolition activities will cease upon sighting of a manatee within 100 yards of the project area and will not resume until the manatee is out of the area for a minimum of 30 minutes.

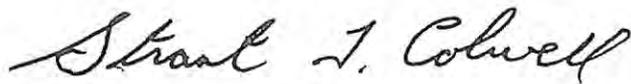
The field survey also indicated the potential presence of the bald eagle (*Haliaeetus leucocephalus*). USFWS removed the bald eagle as threatened under the ESA on August 8, 2007, and published the May 2007, National Bald Eagle Management Guidelines (Eagle Guidelines) to assist the public in understanding protections afforded to and prohibitions related to the bald eagle under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d) (Eagle Act), the Migratory Bird Treaty Act (16 U.S.C. 703-712), and the Lacey Act (16 U.S.C. 3371-3378). The Eagle Act prohibits anyone, without a permit issued by the Secretary of the Interior,

from "taking" bald eagles, including their parts, nests, or eggs. The Eagle Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." The nearest two known active bald eagle nests occur approximately 8 miles to the southeast and 9 miles southwest. Based on the Eagle Guidelines the proposed project should not impact the bald eagle.

Based on the information provided, we concur with your determination of "not likely to adversely affect" the wood stork and the West Indian manatee. The requirements of section 7 of the ESA have been satisfied and no further consultation is required. However, obligations under section 7 of the Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered; (2) this action is subsequently modified in a manner which was not considered in this assessment; or (3) a new species is listed or critical habitat determined that may be affected by the identified action.

We appreciate the opportunity to comment during the planning stages of your project. If you have any additional questions, please write or call Ben Dickerson of my staff at (912) 265-9336.

Sincerely,



Sandra S. Tucker *for*
Field Supervisor

Attachment

cc:

GDOT, Atlanta, Georgia (Harvey Keepler) w/attachment
USACE, Savannah, Georgia (Mike Ruth)
USFWS, Charleston, South Carolina (Mark Caldwell)
USFWS, Brunswick, Georgia (Ben Dickerson)



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5511
(727) 824-5317; FAX (727) 824-5300
<http://sero.nmfs.noaa.gov/>

January 25, 2008

F/SER47:KD/pw

Mr. Glenn Bowman
State Environment/Location Engineer
Department of Transportation
State of Georgia
#2 Capitol Square, S.W.
Atlanta, Georgia 30334-1002

Attention: Lisa Westberry

Dear Mr. Bowman:

NOAA's National Marine Fisheries Service (NMFS) reviewed the additional information dated December 28, 2007, concerning replacement of the SR 404 Spur/ US 17 bridge over the Back River in Chatham County, Georgia, project number NH-009-2(93). The Georgia Department of Transportation (GDOT) proposes to replace the existing 3200-foot bridge connecting Georgia and South Carolina because the bridge has an inadequate load rating. The supplemental information provided largely incorporates or otherwise addresses the recommendations NMFS made on July 2, 2007, to support the habitat goals of the Fish and Wildlife Coordination Act and the Magnuson-Stevens Act as they apply to this project.

In summary, to conduct a thorough review of the project NMFS requested additional information to address three issues: (1) provide a detailed description of the procedures for construction and demolition of the bridges, (2) provide a plan that describes how best management practices, such as rapid reestablishment of vegetation in the tidal marsh areas, will be used to limit impacts to water quality, EFH, and fishery species, (3) provide a detailed mitigation plan that describes the habitats within the mitigation banks and justifies the number of credits that will be purchased/debited, any use of out-of-kind mitigation, and the need for off-site mitigation.

In response to our requests, a more detailed description of the procedures to be used to construct the bridge was provided, however, the exact method of removing the existing bridge will be determined by the contractor. According to the information provided, it is generally thought that the existing bridge will be removed in sections that can be lifted and off-loaded with the majority of the material removed by cranes operating from barges. Any dropped material will be removed. To address our concerns associated with construction activities in and adjacent to tidal marsh areas, the project will use standard best management practices (BMPs) as described in the *GDOT, State of Georgia Standard Specifications Construction of Transportation Systems 2001 Edition*. BMP activities will include installation of two rows of Type "C" silt fence, which is required in areas with wetlands and waterways. The contractor may

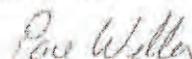


propose other methods of erosion and silt control, but these must be approved by GDOT and cannot be less stringent than GDOT's specifications. GDOT also committed to reestablishing vegetation in the temporary construction areas. To further minimize impacts to EFH, other measures include designating the areas beyond the impacted area as "Environmentally Sensitive Areas" where all construction activities are prohibited. This would include: staging, disposal of material and other types of activities. In addition, as a part of the consultation required by the Endangered Species Act, GDOT agreed to limit in-water construction so that it will not occur from December 1 through April 30. Additional updated information states that the actual amount of wetland impact would total 0.845 acres and not 1.28 acres. To address compensatory mitigation for wetland impacts in Georgia, GDOT may use the proposed Wormsloe Plantation Saltmarsh Mitigation Bank in Chatham County. Compensatory mitigation for impacts in South Carolina have not yet been determined, but a proposal made by a South Carolina resource agency recommended that the old bridge structure be used to supplement offshore artificial reefs and improve fish habitat off the South Carolina coast. NMFS supports this proposal and recommends that GDOT include it as part of the mitigation plan.

After evaluation of the additional information provided, we are able to complete the EFH consultation. With incorporation of the measures summarized above, we conclude the project is unlikely to adversely affect EFH or federally managed fishery species, and we do not anticipate offering EFH conservation recommendations during the permitting process required by the Clean Water Act.

We appreciate the opportunity to provide these comments. Please direct related questions or comments to the attention of Ms. Kay Davy at our Charleston Office. She may be reached by telephone at (843) 953-7202 or by e-mail at Kay.Davy@noaa.gov.

Sincerely,



/ for

Miles M. Croom
Assistant Regional Administrator
Habitat Conservation Division

cc: (via electronic mail)

FHWA, Jennifer Giersch
COE, Mike Ruth
GADNR, Atlanta
EPA, Atlanta
FWS, Brunswick
F/SER3
F/SER4, Dale
F/SER47, Davy



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701
(727) 824-5312, FAX 824-5309
<http://sero.nmfs.noaa.gov>

JAN 12 2009

F/SER31:SKB

Mr. Harold E. Linnenkohl
Department of Transportation
State of Georgia
#2 Capitol Square, SW
Atlanta, Georgia. 30334-1002

Dear Mr. Linnenkohl:

This is in response to your letter, received by the National Marine Fisheries Service (NMFS) on October 16, 2007, regarding construction of a new crossing over the Back River in Chatham County, Georgia. Additional information was requested via e-mail on March 11, 2008, and received August 13, 2008. You determined that the proposed action may affect, but is not likely to adversely affect, shortnose sturgeon and requested our concurrence pursuant to section 7 of the Endangered Species Act of 1973 (ESA). This consultation is being conducted with the Georgia Department of Transportation (GDOT) as the non-federal representative designated by the Federal Highway Administration, Georgia Division (letter dated March 17, 2004), pursuant to 50 CFR 402.08. NMFS' determinations regarding the effects of the proposed action are based on the description of the action in this informal consultation. You are reminded that any changes to the proposed action may negate the finding of the present consultation and may require reinitiation of consultation with NMFS.

GDOT proposes to construct a new bridge over the Back River (32.1119°N; 81.1150°W) and its adjacent wetlands and remove the existing bridge. Up to 48 bents with pre-stressed concrete piles will be installed via jetting or pile driving: 7 bents will be constructed with nine 24" square piles; 4 bents with eight 24" square piles, and 35 bents with six 24" square piles. Each bent will be capped and concrete poured within the cap to provide structural continuity and a stable base for the beams. Beams will be moved and set via a barge-mounted crane.

A temporary work bridge may be constructed. While there are numerous alternatives for work-bridge construction and removal, normal activities include: driving of piles, installation of wooden deck materials, and mechanical removal of support piles by either cutting them off at the substrate or pulling up via cranes. Further, materials or debris are not permitted to enter the water at any time, or remain on the benthos following construction. The applicant specifies that the GDOT Standard Specifications will be followed: remnant materials will be removed in such a fashion as to minimize siltation. No cofferdams will be constructed; no dredging is anticipated. Width of the river at the project location is approximately 3255 feet. Total time for in-water construction is expected to be about 24 months.



Demolition of the existing structure may require the use of explosives. Sections that can be removed will be lifted off and offloaded with trucks and barge-mounted cranes. Materials will not be permitted to enter the water at any time, or remain on the benthos following demolition. The applicant specifies that the GDOT will use standard Best Management Practices as prescribed in the Georgia Department of Transportation, State of Georgia, Standard Specifications Construction of Transportation Systems 2001 Edition available at <http://tomcat2.dot.state.ga.us/thesource/pdf/spec/ss540.html> with additions to section 107 included in the application as Appendix C. Generally, these provisions provide conditions intended as a minimum to protect shortnose sturgeon and their habitat during construction activities in proximity to the species.

A special provision for the protection of threatened and/or endangered species is being implemented by GDOT for this project: No in-water work in the Back River will occur between December 1 and April 30 of any year. The in-water moratorium prohibits pile installation and removal, and activities associated with bridge construction or destruction (including lowering equipment and materials into the river, and blasting). Further, two rows of Type "C" silt fence will be required for all areas in which there are wetlands and other waterways.

The only federally-listed species under NMFS jurisdiction that occurs in the area of this project is the endangered shortnose sturgeon (*Acipenser brevirostrum*). There is no NMFS-designated critical habitat in the project area. Shortnose sturgeon are known to inhabit the Back River and the adjacent Savannah River. The fish migrate seasonally between freshwater and mesohaline areas within the river based on water temperature and salinity cues. Spring (upstream) spawning migrations are likely triggered by water temperatures above 8°C;¹ from the late winter/early spring (southern rivers) to mid-to-late spring (northern rivers), specifically occurring in the Savannah River during February and March.² Subsequent downstream migration post-spawning is rapid and direct. Hence, the bridge construction/demolition, occurring May through November, will occur during a period when the fish are known to be downstream. The project area is not currently known to support habitat for shortnose sturgeon spawning or foraging.

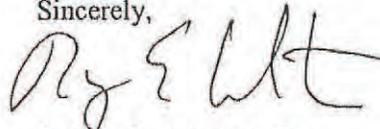
We have analyzed the proposed action and believe the only potential effects to shortnose sturgeon is to migration: temporarily during construction and long-term from in-water structures. NMFS has determined this effect will be insignificant because: (1) Implementation of the in-water moratorium prohibiting construction/destruction coincides with the period when shortnose are most likely to be present in the project area; (2) it is highly unlikely that shortnose sturgeon will be present within the project site when in-water construction activities are occurring, given water temperatures and the proposed seasonal moratorium on in-water work; and (3) the completed bridge will not impede shortnose sturgeon passage. Based on the above, NMFS believes the project is not likely to adversely affect shortnose sturgeon.

¹ Dadswell, M.J., B.D. Taubert, T.S. Squires, D. Marchette, and J. Buckley. 1984. Synopsis of biological data on shortnose sturgeon, *Acipenser brevirostrum*. LeSuer 1818. NOAA Technical Report NMFS 14.

² Hall, J.W., T.L.J. Smith, and S.D. Lampract. 1991. Movements and habitats of shortnose sturgeon, *Acipenser brevirostrum*, in the Savannah River. *Copeia*: 695-702.

This concludes your consultation responsibilities under the ESA for species under NMFS' purview. A new consultation must be initiated if a take occurs or new information reveals effects of the action not previously considered, or the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed or critical habitat designated that may be affected by the identified action. We enclose information on other statutory requirements that may apply to this action and NMFS' Public Consultation Tracking System that allows you to track the status of ESA consultations. We look forward to continued cooperation with GDOT in conserving our endangered and threatened resources. If you have any questions, please contact Dr. Stephania Bolden at (727) 824-5312 or by e-mail at stephania.bolden@noaa.gov.

Sincerely,



Roy E. Crabtree, Ph.D.
Regional Administrator

Enclosure

cc: Kay Davy (F/SER47)

File: 1514-22.L.4.GA

Ref: I/SER/2008/07560

O:\SECTION7\INFORMAL\Transportation\GADOT\07560 Back River.doc

PCTS Access and Additional Considerations for ESA Section 7 Consultations
(Revised 5-13-2008)

Public Consultation Tracking System (PCTS) Guidance: PCTS is an online query system at <https://pcts.nmfs.noaa.gov/> that allows federal agencies and U.S. Army Corps of Engineers' (COE) permit applicants and their consultants to ascertain the status of NMFS' Endangered Species Act (ESA) and Essential Fish Habitat (EFH) consultations, conducted pursuant to ESA section 7, and Magnuson-Stevens Fishery Conservation and Management Act's (MSA) sections 305(b)2 and 305(b)4, respectively. Federal agencies are required to enter an agency-specific username and password to query the Federal Agency Site. The COE "Permit Site" (no password needed) allows COE permit applicants and consultants to check on the current status of Clean Water Act section 404 permit actions for which NMFS has conducted, or is in the process of conducting, an ESA or EFH consultation with the COE.

For COE-permitted projects, click on "Enter Corps Permit Site." From the "Choose Agency Subdivision (Required)" list, pick the appropriate COE district. At "Enter Agency Permit Number" type in the COE district identifier, hyphen, year, hyphen, number. The COE is in the processing of converting its permit application database to PCTS-compatible "ORM." An example permit number is: SAJ-2005-000001234-IPS-1. For the Jacksonville District, which has already converted to ORM, permit application numbers should be entered as SAJ (hyphen), followed by 4-digit year (hyphen), followed by permit application numeric identifier with no preceding zeros. For example: SAJ-2005-123; SAJ-2005-1234; SAJ-2005-12345.

For inquiries regarding applications processed by COE districts that have not yet made the conversion to ORM (e.g., Mobile District), enter the 9-digit numeric identifier, or convert the existing COE-assigned application number to 9 numeric digits by deleting all letters, hyphens, and commas; converting the year to 4-digit format (e.g., -04 to 2004); and adding additional zeros in front of the numeric identifier to make a total of 9 numeric digits. For example: AL05-982-F converts to 200500982; MS05-04401-A converts to 200504401. PCTS questions should be directed to Eric Hawk at Eric.Hawk@noaa.gov. Requests for username and password should be directed to PCTS.Usersupport@noaa.gov.

EFH Recommendations: In addition to its protected species/critical habitat consultation requirements with NMFS' Protected Resources Division pursuant to section 7 of the ESA, prior to proceeding with the proposed action the action agency must also consult with NMFS' Habitat Conservation Division (HCD) pursuant to the MSA requirements for EFH consultation (16 U.S.C. 1855 (b)(2) and 50 CFR 600.905-.930, subpart K). The action agency should also ensure that the applicant understands the ESA and EFH processes; that ESA and EFH consultations are separate, distinct, and guided by different statutes, goals, and time lines for responding to the action agency; and that the action agency will (and the applicant may) receive separate consultation correspondence on NMFS letterhead from HCD regarding their concerns and/or finalizing EFH consultation.

Marine Mammal Protection Act (MMPA) Recommendations: The ESA section 7 process does not authorize incidental takes of listed or non-listed marine mammals. If such takes may occur an incidental take authorization under MMPA section 101 (a)(5) is necessary. Contact Ken Hollingshead of our NMFS Headquarters' Protected Resources staff at (301) 713-2323 for more information on MMPA permitting procedures.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
176 Croghan Spur Road, Suite 200
Charleston, South Carolina 29407

December 1, 2009

Mr. Edward Frierson
Environmental Project Manager
S.C. Department of Transportation
P.O. Box 191
Columbia, SC 29202-0191

Re: Biological Assessment, US-17 Widening, Chatham County, GA and Jasper County, SC,
FWS Log No. 42410-2010-I-0075

Dear Mr. Frierson:

The U.S. Fish and Wildlife Service (Service) has received the Biological Assessment (BA) regarding the proposed improvement US Hwy 17 in Jasper County and the Back River bridge in Chatham County, GA. The described project entails widening Hwy 17 from two lanes to four lanes separated by a median. The project is 7.5 miles in length beginning at the US Hwy 17/SC 170 interface south to the South Carolina state line shared with Georgia. The project corridor is 400 feet in width covering approximately 395 acres of fresh and salt water wetlands.

This BA includes a review of each of the threatened and endangered (T&E) species that are known to occur, or may occur, within the project area. This review was performed in order to facilitate consultation with the Service as required by the Endangered Species Act of 1973 (Act), as amended. The BA concluded that no potential habitat was found in the project corridor for several species; piping plover, [frosted] flatwoods salamander, American chaffseed, Canby's dropwort and seaturtles. Therefore, SCDOT concluded the project would have no effect on these species. At this time, no further consultation is required. Potential habitat does exist for the West Indian manatee, red-cockaded woodpecker, shortnose sturgeon, wood stork, eastern indigo snake and the pondberry.

The Service recommends SCDOT contact the National Oceanographic and Atmospheric Administration regarding consultation requirements and determinations regarding the shortnose sturgeon. As the proposed bridge is located primarily in Georgia waters and pursuant to the Service's August 21, 2007, correspondence (copy enclosed) the Service's Ecological Services Coastal Sub Office located in Brunswick, GA serves as the lead office for species consultations.

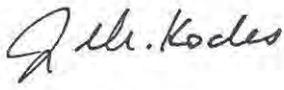
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We recommend SCDOT contact the Brunswick Sub Office to address potential impacts and section 7 requirements regarding the West Indian manatee. SCDOT determined that although potential habitat was found in the project area for the remaining species, no individuals were observed during survey efforts.

Upon review of the information provided, the Service concurs with the SCDOT determination that the US Hwy 17 widening project may affect, but is not likely to adversely affect the pondberry, red-cockaded woodpecker, American chaffseed or the woodstork. Please note that obligations under section 7 of the Act must be reconsidered if (1) new information reveals impacts of this identified action may affect any listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner which was not considered in this assessment; or (3) a new species is listed or critical habitat is designated that may be affected by the identified action.

If you have any questions regarding the Service's determination, please do not hesitate to contact Mark Caldwell at (843) 727-4707 ext. 215.

Sincerely,


for Timothy N. Hall
Field Supervisor

TNH/MAC/km

Enclosure

cc: Mr. Ben Dickerson, USFWS, Brunswick, GA



United States Department of the Interior

FISH AND WILDLIFE SERVICE

176 Croghan Spur Road, Suite 200
Charleston, South Carolina 29407



December 6, 2010

Mr. Edward Frierson
Environmental Project Manager
S.C. Department of Transportation
P.O. Box 191
Columbia, SC 29202-0191

Re: Biological Assessment, Proposed US 17 Widening
Chatham County, GA and Jasper County, SC
FWS Log No. 42410-2011-I-0073

Dear Mr. Frierson:

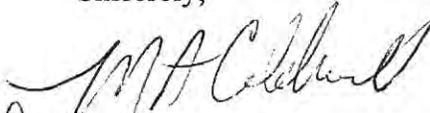
The U.S. Fish and Wildlife Service (Service) has received your October 19, 2010, Biological Assessment (BA) regarding the proposed widening of US 17. The project corridor is approximately 395 acres in size and consists of a 400' wide corridor centered on the existing US 17 roadway for a distance of 7.5 miles, extending to the south from SC 170 in Jasper County, SC, to Hutchinson Island in Chatham County, GA. The project corridor is primarily comprised of palustrine emergent, scrub-shrub, and forested wetlands, open water canals, and emergent estuarine wetlands, as well as planted pine stands, periodically maintained roadsides, mixed hardwood-pine forests, agricultural land, and commercial, institutional, and residential development. The southern-most portion of the project corridor is situated in Chatham County, GA, and includes the Back River and adjacent emergent estuarine wetlands.

The BA concludes that the proposed project may affect, but is not likely to adversely affect the red-cockaded woodpecker, wood stork, bald eagle, eastern indigo snake, and pondberry. The Service concurs with SCDOT's determination of not likely to adversely affect for the aforementioned species. Suitable habitat for the West Indian manatee is present in the project corridor and observations of the manatee have been documented near the southern-most portion of the project corridor. Due to the historical presence of the manatee in the area and the presence of suitable habitat, the SCDOT has determined the project may affect, but is not likely to adversely affect this species. Provided the SCDOT implements the Service's Manatee Construction Guidelines during bridge construction activities to reduce potential impacts, the Service concurs that the project is not likely to adversely affect the West Indian manatee.

Please note that obligations under section 7 of the Act must be reconsidered if (1) new information reveals impacts of this identified action may affect any listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner which was not considered in this assessment, or (3) a new species is listed or critical habitat is designated that may be affected by the identified action.

If you have questions regarding the Service's position on this matter or need further assistance please contact Mr. Mark Leao at (843) 727-4707 ext. 228.

Sincerely,


for Jay B. Herrington
Field Supervisor

JBH/MCL



South Carolina
Department of Transportation

December 8, 2010

Mr. Robert Hoffman
NOAA Fisheries
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701

RE: Biological Assessment and Avoidance of Construction Impacts to the Endangered Shortnose Sturgeon – Road Widening and Bridge Widening on US 17 in Jasper County, South Carolina, File No. 27.480, PIN 25999

Dear Mr. Hoffman:

This letter is intended to request informal consultation regarding potential impacts to the shortnose sturgeon (*Acipenser brevirostrum*) for the above referenced project. The project would involve widening the bridge over the Back River. Improvements also include widening of the roadway from Hutchinson Island (Chatham County, Georgia) to SC 170 in Jasper County, South Carolina. This project is a joint endeavor of the SC Department of Transportation (SCDOT) and the Georgia Department of Transportation (GDOT). GDOT has already received concurrence from your office in January, 2009 for their section of the project which includes replacing the bridge (see attached correspondence). SCDOT will only be widening the roadway leading up to the bridge and adding two lanes to the bridge.

Both Departments have agreed to implement a seasonal moratorium for all in water work between December 1 and April 30 and work will not impede more than 50 percent of the channel during the months of January through April. No special measures will be employed by SCDOT outside of this moratorium except for normal Best Management Practices.

As a result of implementing these measures, the project may affect, but is not likely to adversely affect, the endangered shortnose sturgeon. Please review the enclosed Biological Assessment at your earliest convenience and provide the Department with your comments on this finding.

Thank you for your assistance in this matter. If you have any questions regarding these measures, you may contact me at (803) 737-1861.

Sincerely,

Edward W. Frierson
NEPA Coordinator/Biologist

EWf:ewf

Enclosures

cc: Mr. Chad Long, RPG-1 NEPA Coordinator (letter only)

File: Env/EWF





**UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration**

NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office

263 13th Avenue South

St. Petersburg, FL 33701-5505

727.824.5312, FAX 824.5309

<http://sero.nmfs.noaa.gov>

APR 8 2011

F/SER31:JC

Mr. Edward Frierson
NEPA Coordinator/Biologist
South Carolina Department of Transportation
P.O. Box 191
Columbia, SC 29202-0191

Dear Mr. Frierson:

This letter responds to your December 8, 2010, letter regarding a proposed project by the South Carolina Department of Transportation (SCDOT) to widen the bridge over the Back River and widen the roadway from Hutchinson Island to SC 170. This project is a joint endeavor between SCDOT and the Georgia Department of Transportation (GDOT). GDOT previously received concurrence from NMFS on January 12, 2009, for the construction activities proposed to occur within Georgia, and now SCDOT seeks concurrence from NMFS for construction proposed for the South Carolina portion of road widening. NMFS requested additional information from SCDOT by phone on February 23, 2011, and a response was given the same day. You determined that the proposed activities may affect but are not likely to adversely affect shortnose sturgeon and requested concurrence from the National Marine Fisheries Service (NMFS), pursuant to Section 7 of the Endangered Species Act (ESA). This consultation is being conducted with the South Carolina Department of Transportation (SCDOT) as the non-federal representative designated by the Federal Highway Administration, South Carolina Division (letter dated March 17, 2004), pursuant to 50 CFR 402.08. NMFS' determinations regarding the effects of the proposed action are based on the description of the action in this informal consultation. You are reminded that any changes to the proposed action may negate the findings of the present consultation and may require reinitiation of consultation with NMFS.

The project is located at 32.104878°N and 81.085967°W (North American Datum of 1983) on the Back River that runs between Georgia and South Carolina. GDOT proposes to construct a new bridge over the Back River and its adjacent wetlands and remove the existing bridge which is both structurally deficient and functionally obsolete. SCDOT's portion of the proposed work involves only the widening of the portion of roadway (US 17) from Hutchinson Island, Georgia (Chatham County), to SC 170 (Jasper County), and includes adding two travel lanes leading to the bridge itself that would tie into the existing four-lane typical section of SR 404 Spur/US 17 centerline. The project area for the SCDOT portion of the project includes approximately 7.5 miles of roadway beginning at the US Hwy 17/SC 170 interface south to the South Carolina state line shared with Georgia. The existing US Hwy 17 consists of two, 12-ft-wide travel lanes with 5-ft-wide earthen shoulders on either side. Wetlands vegetation within portions of the project area include: smooth cordgrass (*Spartina alterniflora*), big cordgrass (*Spartina cynosuroides*), and black needlerush (*Juncus roemerianus*). The impacts from the South Carolina portion of the



proposed actions will result from widening the soft shoulder portion of the causeway to accommodate the overall width necessary to construct an additional two lanes. The widening of US 17 will impact a total of approximately 79 acres of estuarine wetlands, according to a biological survey conducted by Jordon, Jones, and Goulding, Inc. during May and July of 2009. The widening of land to support the additional two lanes on US 17 will average approximately 86 sq ft of fill for each linear foot of distance, but will not be an equal square footage along the entire distance of approximately 7.5 miles. SCDOT Standard Specifications will be followed. Remnant materials will be removed in such a fashion as to minimize siltation. No cofferdams will be constructed and no dredging is anticipated. Total time for in-water construction is expected to be about 24 months.

The SCDOT will use standard Best Management Practices as prescribed in the Georgia Department of Transportation, State of Georgia, Standard Specifications Construction of Transportation Systems 2001 Edition available at <http://tomcat2.dot.state.ga.us/ContractsAdministration/uploads/DOT%202001.pdf>. Generally, these provisions provide conditions intended, at a minimum, to protect shortnose sturgeon and their habitat during construction activities in proximity to the species. A special provision for the protection of threatened and/or endangered species is being implemented by SCDOT for this project: No in-water work in the Back River will occur between December 1 and April 30 of any year. The in-water moratorium prohibits Georgia (GDOT) portions of the work including pile installation and removal, and activities associated with bridge construction or destruction (including lowering equipment and materials into the river, and blasting), but also precludes any in-water work associated with the SCDOT widening of US 17. Additionally, two rows of Type "C" silt fence will be required for all areas in which road widening occurs where there are wetlands and other waterways.

The only federally-listed species under NMFS jurisdiction that occurs in the area of this project is the endangered shortnose sturgeon (*Acipenser brevirostrum*). There is no NMFS-designated critical habitat in the project area. Shortnose sturgeon are known to inhabit the Back River and the adjacent Savannah River. The fish migrate seasonally between freshwater and mesohaline areas within the river based on water temperature and salinity cues. Foraging in mesohaline portions of the estuary, including the project area, typically occurs in the winter.¹ Hence, the road construction occurring May through November, will occur during a period when the fish are likely to be upstream of the project area. The project area is not currently known to support habitat for shortnose sturgeon spawning or foraging.

We have analyzed the proposed action and believe the only potential effects to shortnose sturgeon are to their foraging habitats: temporarily during construction and long-term from in-water structures. NMFS has determined this effect will be insignificant because: (1) Implementation of the in-water moratorium prohibiting construction/demolition coincides with the period when shortnose are most likely to be present in the project area; (2) implementation of best management practices will reduce or eliminate in-water effects to benthic prey. Based on the above, NMFS believes the project is not likely to adversely affect shortnose sturgeon.

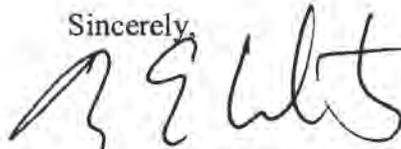
This concludes your consultation responsibilities under the ESA for species under NMFS'

¹ Hall, J.W., T.I.J. Smith, and S.D. Lamprecht. 1991. Movements and habitats of shortnose sturgeon, *Acipenser brevirostrum*, in the Savannah River. Copeia: 695-702.

purview. Consultation must be reinitiated if a take occurs or new information reveals effects of the action not previously considered, or the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed or critical habitat designated that may be affected by the identification action.

We have enclosed additional information on other statutory requirements that may apply to this action, and on NMFS' Public Consultation Tracking System to allow you to track the status of ESA consultations. If you have any questions, please contact Joseph Cavanaugh by e-mail at Joseph.cavanaugh@noaa.gov. Thank you for your continued cooperation in the conservation of listed species.

Sincerely,

A handwritten signature in black ink, appearing to read "Roy E. Crabtree". The signature is fluid and cursive, with a large initial "R" and "C".

Roy E. Crabtree, Ph.D.
Regional Administrator

Enclosure

File: 1514-22.L.2

Ref: I/SER/2010/06374

APPENDIX C

STANDARD MANATEE CONDITIONS FOR IN-WATER WORK

2011

The permittee shall comply with the following conditions intended to protect manatees from direct project effects:

- a. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.
- b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- c. Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
- d. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
- e. Any collision with or injury to a manatee shall be reported immediately to the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or Vero Beach (1-772-562-3909) for south Florida, and to FWC at ImperiledSpecies@myFWC.com
- f. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Temporary signs that have already been approved for this use by the FWC must be used. One sign which reads *Caution: Boaters* must be posted. A second sign measuring at least 8 ½" by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. These signs can be viewed at MyFWC.com/manatee. Questions concerning these signs can be sent to the email address listed above.

CAUTION: MANATEE HABITAT

All project vessels

IDLE SPEED / NO WAKE

When a manatee is within 50 feet of work
all in-water activities must

SHUT DOWN

Report any collision with or injury to a manatee:

Wildlife Alert:

1-888-404-FWCC(3922)

cell *FWC or #FWC



Biological Survey
Widening of US 17 from Hutchinson Island (Chatham County, GA)
to SC Route 170 in Jasper County, SC

Pursuant to Section 7 of the Federal Endangered Species Act, a field survey was conducted within the proposed project corridor by SCDOT on-call consultant Jordan, Jones & Goulding, Inc. The project corridor is approximately 395 acres in size and consists of a 400 ft. wide corridor centered on the existing US 17 roadway for a distance of approximately 7.5 miles, extending to the south from SC 170 in Jasper County, SC to Hutchinson Island in Chatham County, GA. The following list of federal-threatened and federal -endangered species known to exist in Jasper County, SC was obtained from the U.S. Fish and Wildlife Service on-line database (last updated July 24, 2009) at <http://www.fws.gov/charleston/listedEndangeredSpecies.html>:

Mammals

West Indian manatee (*Trichechus manatus*) – E

Birds

Red-cockaded woodpecker (*Picoides borealis*) – E

Wood stork (*Mycteria Americana*) – E

Piping plover (*Charadrius melodus*) – T

Bald eagle (*Haliaeetus leucocephalus*) – BGEPA

Fish

Shortnose sturgeon (*Acipenser brevirostrum*) – E

Amphibians

Flatwoods salamander (*Ambystoma cingulatum*) – E

Methods

The list of protected species known to occur in Jasper County was reviewed and evaluations were performed by Jordan, Jones, and Goulding, Inc. (JJG) ecologists Kevin Mullinax, Kirsten Young, Stephen Bailey and Roger Bledsoe regarding the likelihood of the presence of each listed species within the project corridor. The specific ecological requirements of the listed species helped prioritize the locations within the project corridor given the most attention. However, all areas were examined for the listed species and their preferred habitat.

Results

The project consists of the widening of US 17 from two lanes to four lanes with either a variable 36 to 48-foot depressed median or a 15-foot center turn lane for a distance of approximately 7.5 miles. The project corridor is primarily comprised of palustrine emergent, scrub-shrub, and forested wetlands, open water canals, and emergent estuarine wetlands, as well as planted pine stands, periodically maintained roadsides, mixed hardwood-pine forests, agricultural land, and commercial, institutional and

Reptiles

Eastern indigo snake (*Drymarchon corais couperi*) – T

Kemp's ridley sea turtle (*Lepidochelys kempii*) – E

Leatherback sea turtle (*Dermochelys coriacea*) – E

Loggerhead sea turtle (*Caretta caretta*) – T

Green sea turtle (*Chelonia mydas*) – T

Plants

Pondberry (*Lindera melissifolia*) – E

Canby's dropwort (*Oxypolis canbyi*) – E

American chaffseed (*Schwalbea Americana*) – E

Biological Survey
US 17 Widening, Jasper County, SC

residential development. The southern-most portion of the project corridor is situated in Chatham County, GA, and includes the Back River and adjacent emergent estuarine wetlands (tidal marsh).

No habitat was observed within the project corridor for the following species: piping plover, flatwoods salamander, Kemp's ridley sea turtle, leatherback sea turtle, loggerhead sea turtle, green sea turtle, American chaffseed, Canby's dropwort.

Potential habitat for West Indian manatee, red-cockaded woodpecker, wood stork, bald eagle, shortnose sturgeon, eastern indigo snake and pondberry, is located in the vicinity of project corridor.

West Indian manatees live in fresh and brackish waters that include large rivers, estuaries, coastal bays, and sounds. Manatees prefer waters that are three to five feet deep and will frequent shallow grassbeds with ready access to deep channels for foraging. The Back River provided suitable habitat for the West Indian manatee. According to "Ecology Assessment/Description of Jurisdictional Wetland, Non-Wetland Waters of the U.S., and Protected Species Survey," prepared by the Georgia Department of Transportation (GDOT) Office of Environment/Location (GDOT Project NH-009-2[93]), dated May 18, 2007, the Natural Heritage Program has noted observations of manatee 0.40 mile southwest of the Back River Bridge. No individuals were observed during the field survey. Due to the historical presence of manatees and the presence of suitable habitat, the project **may affect, but is not likely adversely affect** this species.

The red-cockaded woodpecker is a small woodpecker that was once common in mature pine forests throughout the southeastern US; however, populations of the bird are now fragmented throughout its former range due to very specific habitat requirements. Unlike most woodpecker species, red-cockaded woodpeckers use live pine trees to excavate a nesting cavity. These birds live in non-migratory groups of two to five individuals. Specific habitat requirements include approximately 125 acres of contiguous pine with little to no developed understory. Foraging habitat consists of pine and hardwood trees greater than 30 years of age. Nesting habitat typically consists of pines greater than 60 years of age that are infected with redheart fungus (*Phellinus pini*). Potential foraging habitat was observed during field studies; therefore, construction of this project **may affect, but is not likely to adversely affect** this species.

Wood storks are known to inhabit swamps, lake shores, pools, streams, estuaries, and mudflats. Wood storks nest throughout Florida, north to the Okefenokee Swamp in Georgia, and on rare occasions in coastal South Carolina. Preferred nest sites are on top of large cypress trees in swamps near large bodies of water. They forage in shallow waters where they feed on fish, frogs, tadpoles, crustaceans, and other aquatic organisms. Based on review of the S.C. Department of Natural Resources Rare, Threatened & Endangered Species Inventory (last updated 01/17/2006), several colonial water bird rookeries have been identified in the vicinity of the project corridor, although no wood stork were noted in these rookeries. No individuals were observed during the site visit and no rookeries or nesting sites are known within the project corridor. The project area does have suitable foraging habitat for wood storks therefore, the project **may affect, but is not likely to adversely affect** this species.

Biological Survey
US 17 Widening, Jasper County, SC

Bald eagles prefer primarily riparian habitats associated with coastal waters, rivers and lakes; and usually nest near bodies of water where foraging habitat occurs. Based on review of the S.C. Department of Natural Resources Rare, Threatened & Endangered Species Inventory (last updated 01/17/2006), several nesting sites have been identified within 3 miles of the project corridor but none are noted within the project corridor, and no individuals or nests were observed in the project corridor during field surveys. The Back River could be used by eagles for foraging. The project is not likely to disturb bald eagles, as defined in the Bald and Golden Eagle Protection Act.

Shortnose sturgeon occurs in brackish rivers and coastal marine habitats (salinity less than 30 parts per thousand) along the Atlantic coast. During the winter months, this anadromous fish migrates up freshwater rivers to spawn. The shortnose sturgeon forages along the bottom of waterways as it migrates to spawning grounds. Spawning occurs in the summer and fall. Shortnose sturgeons migrate downstream to marine habitats after spawning. Based on a letter to GDOT from the National Oceanic and Atmospheric Administration (NOAA), dated January 12, 2009, regarding Section 7 consultation for GDOT's proposed replacement of the US 17 bridge over the Back River, the only potential effect to shortnose sturgeon from the construction of GDOT's proposed bridge is on migration. The January 12, 2009 letter requires a moratorium on construction between December 1 and April 30 of any year, and concludes that the project is not likely to adversely affect shortnose sturgeon as a result of the moratorium (NOAA, 2009). Potential habitat for shortnose sturgeon was observed within the proposed US 17 widening project corridor, particularly within the Back River. Given the presence of habitat and the likelihood that NOAA will require a moratorium similar to the one identified in the January 12, 2009 letter to GDOT, construction of this project **may adversely affect, but is not likely to adversely affect** this species.

Eastern indigo snakes inhabit coastal scrub, dry glades, palmetto flats, most types of hammocks, flatwoods, brushy riparian and canal corridors, wet fields, and sandhills regions dominated by mature longleaf pines, turkey oaks, and wiregrass. Habitat sites are often near wetlands and frequently in association with gopher tortoise burrows in the northern extent of its range. The eastern indigo snake utilizes gopher tortoise burrows for refuge during the winter. If gopher tortoise burrows are not present, the snake utilizes hollow logs and burrows of rodents, land crabs, and armadillos. In addition, the eastern indigo snake has an extensive habitat range with an average of 183 acres and a maximum of 492 acres. Although no gopher tortoise burrows were observed on-site, other potential habitat was observed within the project corridor; therefore, construction of this project **may affect, but is not likely to adversely affect** this species.

Pondberry is found in swamp and pond margins, sandy sinks, swampy depressions or wet flats that are subject to drying but the roots are submerged at times. Numerous palustrine forested and scrub-shrub wetlands are located in the project corridor, however no individuals of pondberry were observed in or adjacent to these areas. In addition, much of the project corridor has previously been disturbed by ditching or excavation of canals. Considering that potential habitat was observed within the project corridor, construction of this project **may affect, but is not likely to adversely affect** this species.